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Volume 61

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April, 1955

American FORESTS

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THE AFA

The American Forestry Association, publishers of AMERICAN FORESTS, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Letters

Rolling Waterwagon

EDITOR:

May I commend you for the excellence of AMERICAN FORESTS and for the January issue in particular. I am heartily in accord with the editorial pronouncement (Birth of a Movement) and the article on Ted Pettit and the Boy Scouts, in which organization I have been active for many years. Incidentally, I feel we should have a larger representation of New England on the Board of Directors of The American Forestry Association than is now the case. We have a number of men I would like to recommend who would bring both wisdom and strength to the directorate of the association.

Jesse F. Smith
Secretary, Suffield Town Forest
Commission
Suffield Academy
Suffield, Connecticut

EDITOR:

Being unable to attend the Conservation Congress the writer appreciates the good coverage in your January issue.

Kansas farm land is semi arid and tree growth with duff is largely in the Eastern third. Siltation is a real problem. The 1951 flood left ground water which 1952-1955 has lowered decidedly. This leaves soil easy to move by water to fill dams and some to add to the Gulf of Mexico. From nearly all trees the duff is gone.

Mr. Chambers, a former engineer on the Muskingum job, reported the estimated life of the lakes was 1100 years. Kansas can be improved decidedly.

Probably soil insoak and soil protection, should precede expensive storage lakes and forestry.

We could benefit by some publicity of some specific cases of long life storage due to forestation shrubs and plants.

Irving Hall
President
The Lawrence Paper Company
Lawrence, Kansas

EDITOR:

I am very pleased to note your editorial "The Potomac River—a National Disgrace," in the February issue. I have been attending the meetings about the Rock Creek Watershed. . .

G. F. Gravatt
Senior Pathologist
Agricultural Research Service
Beltsville, Maryland

EDITOR:

It was my privilege to attend the National Watershed Congress, as a representative of the Blue River Watershed in Kansas. Therefore I was very much interested in reading the various articles about this meeting in the January issue of AMERICAN FORESTS, and wish to commend you for the thorough and accurate coverage.

I feel that the "Congress" was a history-making step in the progress of the watershed movement, because it will surely bring about much greater cooperation on the part of those attending. In unity there is strength and I was surely impressed by the unity of purpose shown by delegates from all parts of our nation.

We need a sound and consistent national water policy, in which the same degree of

(Turn to page 60)

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Besley Scores State of Recreation Areas on National Forests

MAINTENANCE of recreational areas on national forests has been permitted to slip so badly that we now have "a national disgrace on our hands," Lowell Besley, executive director-forester of The American Forestry Association informed the House Subcommittee on Interior and Related Agencies Appropriations last month. In speaking to the proposed Budget estimates for the Forest Service for fiscal year 1956, Mr. Besley urged that the 84th Congress at least double its proposed appropriation of a little more than a million dollars for recreational facilities.

The recreational bottleneck on the national forests is one with which the public is becoming increasingly familiar, Mr. Besley indicated. Not so well known, however, is the fact that recent Congresses have had a tendency to be "penny wise and pound foolish" as regards appropriations for management and protection aspects of national forests work. As a result, loyal employees who badly need help are being left in the lurch. And management work that can produce bigger dividends for the Treasury is not receiving the public support it merits. At the same time, Mr. Besley warmly applauded the budget authors for hiked up appropriations for forest roads and trails and substantial increases proposed for insect control.

The urgent need for action on the recreation front is given emphasis by the more than 40 million visitors to the forests last year, Mr. Besley said. Facilities that are either completely lacking or groaning under the impact of this floodtide of visitors are now being sharply criticized by citizens who are demanding to know where the bottleneck lies. "The campgrounds and other facilities for taking care of them are

so inadequate that in far too many cases they are critically unsanitary or completely lacking, with resulting serious danger to public health," Mr. Besley said.

For upwards of 80 years, The American Forestry Association has disapproved automatic appropriation as an unsound practice of government, Mr. Besley said. Nevertheless, as the result of one Congress after another failing to meet its responsibilities as regards forest recreation through regular appropriations procedure, the AFA last year gave its support to a modified version of Rep. Baker's bill calling for the direct earmarking of funds for recreational maintenance work. The AFA, Mr. Besley said, will continue to support this bill unless the Congress takes appropriate action, through regular appropriations channels, that "will enable the Forest Service to begin to clear up this disgraceful situation under sound fiscal policies of government," Mr. Besley said.

Moreover, the future will see a majority of Congressmen gladly supporting such increases, Mr. Besley predicted.

Alarm was expressed by Mr. Besley over meager and even curtailed appropriations of the last several years for national forest management and protection items—even as the dollar continued to sink in value. Despite the fact that forestry appropriations pay big dividends to the federal treasury, "past, present and proposed appropriations" in terms of national forests management and protection "are woefully inadequate to do the job," Besley stressed.

"Indeed, less than half the actual gross receipts from these forests are being reappointed for their administration, management and improvement. It is small wonder, then, that

private industry can, with complete justification, point out that large areas of their own lands are far better managed than the great majority of the national forests. Of course, we are delighted to see the improved management on these industrial lands, but can we as a nation afford to allow one-sixth of our commercial forest land area—upon which many of our citizens depend for their livelihood—fall so seriously below their potential productivity? In these days of phenomenally expanding population and increasing competition for land, the answer is obviously, no. Yet it is exactly what is happening."

A case in point, is the so-called multiple-activity employee—the forest rangers, supervisors and others, Mr. Besley said. "These loyal, hard-working foresters are the very backbone of the national forest organization. They are the ones who have to keep all activities running efficiently. They never were allowed the luxury of an eight-hour day, but with increasingly greater use of the national forests every year, their workload now exceeds all reasonable bounds. They need help. Instead, the 1955 Budget made a \$325,000 cut in this item and the 1956 Budget proposes to maintain the total at the 1955 figure. We believe the 1956 total should be perhaps 10 percent higher than that provided in 1955 to restore last year's cut and add a similar amount to provide assistance for this undermanned, overworked force."

Another case in point, is the meager support now being given by the Congress for national forest reforestation and range revegetation items, Mr. Besley continued. At our present rate of planting, it will require 200 years to restore to productivity the four million acres of national forest land already in need of reforestation, he said. Yet, current appropriations for this purpose are less than two-thirds of what they were a few years ago and amount to less than one-twelfth of the amount authorized by the Anderson-Mansfield Act of 1949. Likewise, the current budget provides only about five-eighths as much as it did several years

(Turn to page 55)

Forester expresses alarm at failure of Congress to provide for greatly accelerated management and protection program on national forests. Recreational bottleneck is termed "national disgrace"

Washington



Lookout

By ALBERT G. HALL

ACTION ON FORESTRY AND RELATED CONSERVATION MEASURES BY THE EIGHTY FOURTH CONGRESS has been rather slow. Although some 200 bills pertaining to natural resources have been introduced, few of them have been considered by the committees to which they have been assigned. Part of the delay is that occasioned by the reorganization of the Congress from a Republican majority to a Democratic one. Another factor has been the pending reports of the Commission on Organization of the Executive Branch of the Government (Hoover Commission) and the Commission on Intergovernmental Relations (Kestnbaum Commission). These reports are being released, and are expected to have considerable influence on the program of the Administration and on the action by the Congress.

THE PRESIDENT'S PARTNERSHIP PROGRAM for natural resource development and use is scheduled for a severe test. The increase in Democratic strength in the Congress and the numerical increase in public-power advocates spell trouble, at least, for the Administration's policy toward development of resources by private citizens. Opening gun is a series of bills seeking the federal construction, operation and maintenance of the Hells Canyon Dam on the Snake River between Idaho and Oregon. Senator Morse of Oregon, one-time Republican, now Democrat, has introduced S. 1333 which if passed will set the stage for other river development programs by the federal government, and may set the pattern for the Congressional approach to other types of resource development and use. His bill is co-sponsored by some 30 other senators, and backed by companion bills in the House.

SECRETARY OF THE INTERIOR, DOUGLAS MCKAY, appears to be the target for those who oppose the Administration program of closer cooperation with private enterprise. It was he who reversed the Interior Department stand for federal development of the Snake River by withdrawing departmental objections to the construction of a power project by the Idaho Power Company. It is expected that the Federal Power Commission's final decision on the controversy will be in favor of the private development of the power resource of the Snake River—unless Senator Morse's bill is enacted. McKay is also being made the target of those who would retain the federal government's control of the timber rights-of-way and access roads in the ever-troublesome Oregon and California checker-boarded Grant Lands. A special survey committee, appointed by McKay two years ago, recommended that the right-of-way regulations be revised to remove their confiscatory requirements through which, in time, the federal government could gain control of forest road use on both public and private lands. It was not anticipated that any significant furor would result; but it has, with the result that the proposed revisions have been at least delayed.

OFFICIAL ATTITUDE TOWARD EXPANSION OF NATIONAL FOREST AREAS was expressed by Assistant Secretary of Agriculture, True D. Morse in his recommending the passage of legislation authorizing the transfer to national forest status of 13,600 acres within the boundaries of the Lincoln National Forest in New Mexico. The land was acquired by the federal government in 1952 in exchange for state land, under the Taylor Grazing Act. Mr. Morse stated: "Although it is the general policy of the Department not to favor significant additions to the national forests, it is believed that there are special circumstances associated with the lands that would be affected by S. 72. The lands support mainly merchantable timber; they are already in federal ownership; they are wholly within the boundaries of the Lincoln National Forest and intermingled with the national forest land; and it

(Turn to next page)

was the intent of Congress in 1926 that these lands become national forest lands."

EARMARKING OF NATIONAL FOREST RECEIPTS FOR VARIOUS PURPOSES has long been a subject of controversy between those who wish to retain budgetary control within the Congress and those who seek to get a job done in the forests. Road and trail funds are obtained in part from percentages of receipts. Strong opposition to the growth of this device for financing national forest work has blocked the passage of measures designed to use a percentage of receipts for wildlife and recreational developments. However, the 84th Congress is again faced with a number of such bills, and the major wildlife and recreational groups are strongly supporting them. In addition Representative Engle of California has introduced a bill, H.R. 4002, to authorize a \$1 annual fee for campfire permits, the receipts from which would be used for recreational developments. Senator Stennis of Mississippi proposes in S. 1383 to earmark 10 percent of timber sales receipts for timber stand improvement and other cultural work for improving the amount, quality, or distribution of forest growing stock.

PAYMENTS TO THE STATES IN LIEU OF TAXES ON NATIONAL FOREST LANDS, amounting to 25 percent of national forest receipts, are specifically designated for use for schools and public roads within forested counties. Representative Horan of Washington has proposed, in H.R. 4636, that the counties be permitted to use the 25 percent fund as they would any other tax money—for any governmental purpose. In recent years, especially, some of the forested counties have been able through use of the national forest fund to build adequate schools and roads, and are faced with surplus money for these purposes. Greater latitude in the use of the national forest fund would also make future acquisition of land for national forest purposes more palatable to the states and counties.

APPROPRIATIONS COMMITTEES OF BOTH SENATE AND HOUSE have been reorganized. In the past appropriations requests for the Forest Service had been first considered by a subcommittee on Agriculture and Forestry in the Senate and by a subcommittee on Agriculture in the House. Under the committee reorganization appropriations relating to the Forest Service will be considered in the Senate by the subcommittee that handles appropriations for the Interior Department. In the House, both Interior's and Agriculture's forestry appropriations are considered by a subcommittee on forestry.

HEARINGS OF THE REGULAR FORESTRY APPROPRIATIONS for Fiscal Year 1956 have drawn to a close, so far as the executive sessions are concerned. It is not anticipated that any appreciable changes will be made by the House Appropriations Committee. The proposed reduction of around \$1,000,000 in the federal contribution to state and private forest fire control is expected to run into some opposition. However, there appears to be less of a united front against the cut than was originally anticipated. The federal appropriations for cooperative fire control last year was \$9,449,500. The budget figure for 1956 is \$8,365,810.

SUPPLEMENTAL APPROPRIATIONS FOR SPRUCE BUDWORM CONTROL in Oregon, Idaho, Montana and New Mexico have been requested for the fiscal year ending June 30, 1955. A total of \$2,570,000 is necessary to carry on work this spring and summer in order to avoid future damage and higher costs. Timber value in the infested areas is estimated at \$38 million. The supplemental request also includes \$350,000 to meet deficiencies in funds for fire fighting on lands under the jurisdiction of the Bureau of Land Management in the West and in Alaska.

WATER AND AIR POLLUTION CONTROL, steadily gaining in importance, is again being encouraged by a long list of bills that would allow the cost of control facilities to be amortized for tax purposes over a five-year period. This tax-relief approach to making stream pollution control an economic feasibility has been proposed year after year.

EXPANSION OF FOREST RESEARCH has been recommended in a report of the Production Economics Research Advisory Committee. The committee was set up by the Secretary of Agriculture to advise him as to the needs of agricultural research. Among the recommendations affecting forestry are: more basic research to determine the costs of growing timber; the benefits of forest management; criteria for multiple-use of forest land; and the need for forest credit and insurance.

EDITORIAL

A Question of Ethics

"The professional forester will utilize his knowledge and skill for the benefit of society."

Code of Ethics
Professional Foresters

Like physicians, foresters have a strict code of ethics—which means rules for correct professional behavior. This code covers 25 separate points and is broken down into four categories. There are rules governing a forester's professional life, his relationship and responsibility to the public, his duties to his client or employer, and his obligations to other professional foresters.

To scrupulously adhere to canons of professional conduct similar to those embraced by doctors and attorneys requires a well-developed sense of responsibility, a spirit of service, a smattering of law, and, under certain circumstances, considerable will power. This code is drilled into the young forester from the time he enters forestry school. In his later professional life he continues to receive reminders of his obligations from the ethics committee of his Society of American Foresters. Above all things, the forester has a responsibility to serve his client faithfully and honorably, to compete fairly with other foresters, and to work for the benefit of society.

For the benefit of those who might assume this code of ethics is a sort of professional golden rule for which the practitioner is held accountable on judgment day, it should be stated that this most certainly is not the case. The day of judgment can come with considerable dispatch for the professional forester, doctor, or lawyer who falters on the path of professional virtue. A professional man found guilty of a serious ethical infraction can be censured by his profession. In extreme cases, he can be expelled if a committee of his peers finds that the evidence warrants such action.

The rigidity of professional codes often comes as a surprise to people outside of professional forestry circles, which is why the writer, a layman, found a recent ethics conference of the Association of Consulting Foresters of more than ordinary interest. While the members of this able group will tell you that Gifford Pinchot was the first consulting forester in this country, the truth is that the way had not been paved for them until comparatively recent years. True,

Pinchot did do some consulting work prior to becoming the first Chief Forester, but it remained for public, and at a later date, industrial forestry to open up any sizable markets for consultants' services.

Twenty years ago you could count the number of consultants—men like the late Ernest Sterling—on one hand. Today there are upwards of 300 consultants in business for themselves. Some of them have served "internships" in either public or industrial forestry but now they have their own shingles out and are competing in a field somewhat less circumscribed than that of the forester in either industry or public service. This means that our consultants are pioneers in a new and pretty much unexplored field. It also means that they will encounter new situations, both along professional and ethical lines, every day of their working lives, for which there may be no precedents.

The meeting to which the writer was invited was for the purpose of probing some of these hitherto unexplored situations and the man chosen to lead the discussion was Mr. Julius Kahn, an eminent New York City forester and attorney who is also one of the framers of the Canons of Ethics of the Society of American Foresters. The procedure adopted for what turned out to be a three-hour session was that of setting up a series of hypothetical cases on ethical problems which were explored from every angle. In all cases, Mr. Kahn served as the "judge" and his list of "authorities" included the legal codes of various states, the Book of Judges from the Scriptures, the ethical codes of other professions and, of course, the Canons of Ethics of the Society of American Foresters.

Readers will readily recognize that the specific nature of those questions is the business of the professional foresters and they will not be reported here. What did strike the visitor with considerable force was the familiarity with legal matters many of the consultants exhibited—knowledge that apparently is basic if the forester is to protect both his client and himself.

But above all there was a spirit of integrity here that augurs well for the future of the forestry profession. In view of the keen desire of these men to fully grasp all the ramifications of the problems studied one can only conclude that this professional code is the forest landowner's guarantee that he will get a square deal, with his interests fully protected, when he calls in a professional forester for aid and advice.

Hundreds of agencies, organizations, industries and land owners have joined in a coordinated move to reforest the Tennessee Valley

Trees for the Tennessee

By J. O. ARTMAN

IN the act that created the Tennessee Valley Authority, Congress placed on this one agency responsibility for developing all natural resources. True, the job was to be done in cooperation with existing local agencies. But this was to be an experiment in integrated resource development within the watershed of one river system. All agencies, regardless of their special interests, were encouraged to look at the resource development job as a whole.

This is a report on the coordinated attack on one important phase of forest development—reforestation. Hundreds of agencies, organizations, and industries have taken an active part, as have thousands of landowners.

TVA's major role has been to survey the need and develop a cooperative work pattern, to get the job started and keep it moving in the right direction, and to help measure and evaluate results.

Reforestation in the Tennessee

Valley literally began with creation of the Tennessee Valley Authority in 1933. Up to that time only about 4,000 acres had been planted to trees in this 26-million-acre watershed.

First plantings date back to 1890 when Schenk and Pinchot were active on the Biltmore estate in western North Carolina. The states came into the reforestation picture about 1915.

Early surveys indicated close to two million acres of idle, unproductive land in need of reforestation in the Valley. Much of it was open and eroded, but there were also thousands of acres of forest land so gutted by overcutting, fire, and grazing that planting seemed the only practical way to get it back into full production.

State forestry agencies were well aware of the reforestation needs, but they could do little about it. They were occupied almost full time with a more urgent job—fire control. And until the fire problem was more in hand, there was little incentive

among landowners to plant trees. In fact the demand was so slight that up to 1933 the seven Valley states together had produced less than two million seedlings.

TVA Nurseries

Such were the conditions that faced TVA. There was a tremendous reforestation job to do. Civilian Conservation Corps camps were moving into the Valley to do it. But there was almost no planting stock.

The states didn't have the funds or facilities to expand their nursery production, so the best alternative was for us to produce our own planting stock. This we proceeded to do, setting up a nursery at Clinton, Tennessee, and one at Muscle Shoals, Alabama.

Clinton Nursery has been in continuous production since 1934. The one at Muscle Shoals was closed temporarily in 1951 for lack of operating funds, and again in 1954.

Annual production has varied

Each of these 4 x 400-foot seedbeds at Clinton Nursery contains close to 50,000 seedlings. One year old, they are being lifted for shipment to planters throughout Tennessee Valley



from a high of 28,577,800 seedlings in 1952-53 to less than 1,500,000 during the war years of 1943 and 1944. Total production through 1953-54 was 315,980,760.

These two nurseries have been among the leaders in developing new methods and equipment. State agencies and industry have called on our nursery people to help design and develop new nurseries. Despite high labor cost (\$1.37 per hour last year), the cost of producing southern pine seedlings has averaged only \$5.36 per thousand.

The CCC Era

Between 1934 and 1942 the Civilian Conservation Corps handled the bulk of the erosion control and reforestation work in the Valley. At one time there were as many as 38 camps assigned to TVA, putting in almost full time on these two resource development jobs—a labor force in excess of 7,000.

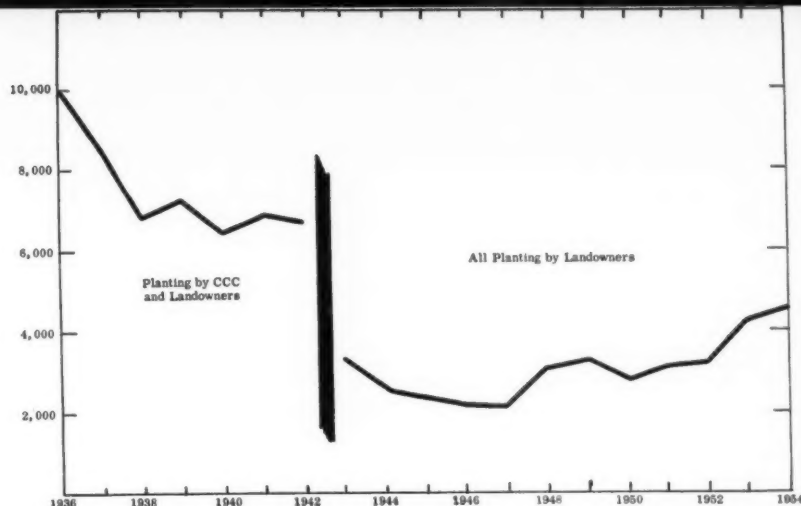
But even so, there were large areas out of the camps' reach. Northwest Georgia was one such area. Landowners here wanted TVA seedlings and were willing to do the planting job themselves. So in 1936 we began supplying trees direct to landowners, working through the state agricultural extension service. The idea worked well, and from Georgia it spread throughout the rest of the Valley. By 1939 half of the reforestation projects were being planted by landowners.

The CCC went out of the picture in 1942, and since then all tree planting has been done by landowners.

The Reforestation Project

Fourteen state agencies are officially involved in the Valley reforestation project, in addition to TVA. These are the state forestry agencies and the state agricultural extension agencies in the seven Valley states. But there are many unofficial participants—forest products industries, Keep Green associations, civic clubs, youth groups, bankers associations, chambers of commerce. These and other groups do much of the spade work so necessary in any promotional campaign.

Within each state the state forester is the project leader. He or someone in his organization approves all applications for seedlings. County agents promote tree planting on farms and also approve all farmer applications for seedlings. We produce the seedlings, help coordinate the project, lend technical assistance



First tree planting in the Tennessee Valley was on the Biltmore Estate in western North Carolina. These white pines were planted 50 years ago

as required, and help evaluate the success of plantings.

Naturally we're interested in getting as much area reforested as possible. But we consider the number of tree planters just as important.

Tree planting is an excellent opening wedge in the fight to awaken general public interest in forest resource development and resource conservation as a whole. Watching the scars of erosion disappear beneath the green canopy of growing pines is a most impressive conservation lesson. It inspires the one who plants the trees and everyone else who witnesses the transformation.

And in addition, planting trees very often leads to other forest de-

velopment practices. Planting an acre of pine trees and watching them grow focuses a landowner's attention on his other woodlands and prompts him to do something toward their improvement. In most cases he becomes an ardent supporter of fire control.

So our objective is to get as many landowners as possible to make a start at planting trees. We supply seedlings without charge to encourage planting by small landowners. We have sponsored hundreds of tree planting and erosion control demonstrations in cooperation with state forestry and extension agencies. On numerous test plots our foresters are collecting information on economic returns. Engineers are measuring

the effects of tree planting on runoff and erosion.

Progress

As of 1954, about one-fourth of the reforestation needs in the Valley had been taken care of, half by planting and half by natural reforestation and land-use adjustment. That leaves an estimated 1.5 million acres still to be planted. Most of this is steep, eroded land being retired from agriculture. But about one-third of it is forest land that has been so heavily cut and burned that

Trees have been planted in all of the 125 Valley counties except six. These are all border counties, with very little land in the watershed.

The Valley states have made great strides in the production of planting stock. In contrast to the 4 million seedlings produced in 1933, their total production in 1954 was 180 million. But these same seven states estimate their planting needs at 10 million acres. This means that if they continue planting at the rate of 180,000 acres a year, it will take 50 to 60 years to finish the job.

Furthermore, production isn't distributed equally among the states. Only in Georgia is the production of seedlings adequate to meet the need. Tennessee, where most of the Valley planting job lies, produced only 6.7 million in 1954. These went to landowners outside the Valley. Another 6.8 million produced by TVA went to landowners inside the Valley. And still this didn't fill the demand. At least twice that many could have been planted.

Survival

Planting trees is one thing. But how many of them survive and grow? Finding the answer to this question is part of the Valley reforestation project.

Each year we team up with one of the state forestry agencies to appraise planting success in some part of the Valley. Such an appraisal in western North Carolina in 1949 showed 86 percent survival. Of 2,122,850 seedlings planted in northern Alabama in 1950, 88 percent were alive and healthy at the end of the first growing season. Even in the drought year of 1952, survival in southwest Virginia was 78 percent.

Planting Costs

To get some idea of how much landowners are investing in tree planting, TVA foresters collected data on 76 typical planting jobs completed in the 1953-54 season.

Where the landowner did the planting himself his labor added up



Vocational agriculture students planting trees on school land

satisfactory natural restocking is unlikely.

Total area planted through 1954 was 224,309 acres. Of this total, 168,606 acres were private land at the time of planting; 41,383 acres were land acquired by TVA in connection with river development; 14,320 acres were in other forms of public ownership. Since then much of the TVA land has been transferred to other public agencies or sold at public auction.

Number of tree planters in the Valley runs close to 35,000. Average number of trees per planting project has varied from a high of 10,000 in CCC days to a low of 2,200. Since 1943 the average has been 3,200—little more than enough to plant three acres.

A community reforestation project in Benton County, Tennessee



to 1½ man-days per thousand trees. That's about how many it takes to reforest an acre. For those who had the work done on contract, or hired labor to do it, costs ranged from \$2.50 to \$20 an acre. The average was \$9.

Planting by hand—with mattock, shovel, or planting bar—is still the general practice in the Valley. In our sample, 62 of the 76 used this method. The others used mechanical planting machines.

If we assume that these cost figures are typical, the 224,300 acres reforested to date represent a landowner investment of over \$2 million. TVA's cost of producing and distributing the seedlings was about \$2,243,000. If state forestry and ex-

riod. This 1700-acre watershed, known locally as White Hollow, is typical of the ridge country of east Tennessee. When TVA bought the land in 1936, 4 percent was in crops and pasture; another 26 percent was open but idle; 66 percent was forested.

After the watershed was completely reforested, peak flows from summer rainstorms were reduced by as much as 92 percent. The time it takes runoff from such storms to leave the watershed has increased up to 500 percent. The water in the main stream is seldom even cloudy.

Out in west Tennessee, in Henderson County, is another interesting lesson in reforestation. Here on a 90-acre watershed drained by Pine

economic benefits, which have been greatly enhanced in recent years by the increased demand for pulpwood and the growing market for pine fence posts, made durable by preservative treatment.

Here too we have a demonstration on TVA land. In 1954 we sold 48,000 cords of pulpwood stumpage at public auction. Bowaters Southern Paper Corporation was high bidder at \$3.10 a cord.

This pulpwood is to come from thinnings on 6,400 acres of plantations and 1,600 acres of natural stands. The plantations average 15 years of age and the average cut is six cords per acre. That's a return of about \$18 an acre.

This same stumpage return applied to the 200,000 acres of planted pine in the Valley amounts to \$3,600,000. This from a first thinning at age 15 years. There will be several other cuttings in these same stands, including a final sawtimber harvest.

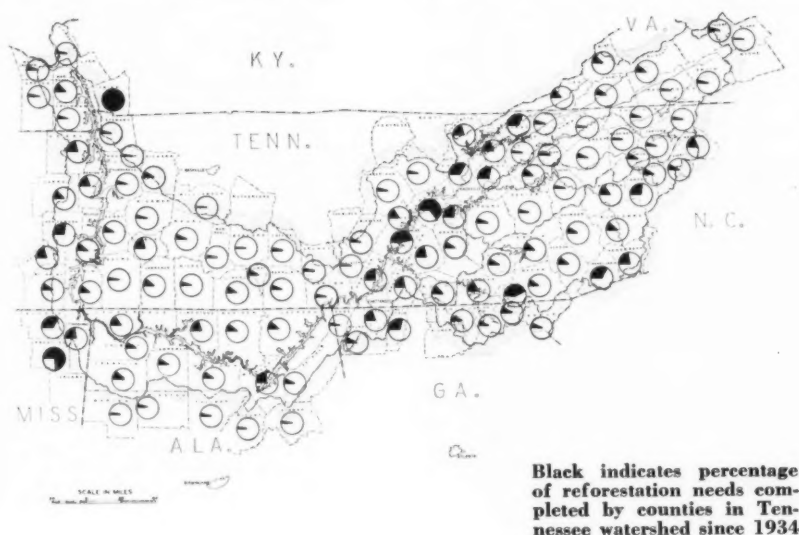
To get some idea of these future yields, we have projected the growth and yield on a loblolly pine plantation in northern Alabama. This planting was 14 years old when it was first thinned for fence posts in 1949. The trees averaged 5.5 inches in diameter and 37 feet tall. There were 850 of them to the acre.

On an acre basis, that first thinning yielded 1,430 fence posts and returned \$28 stumpage. Over 500 trees were cut; 340 were left.

Projecting the growth on these 340 trees, we anticipate three more thinnings at seven-year intervals and a final harvest at 42 years. In addition to the fence posts already harvested, we expect this one acre to produce 16 cords of pulpwood and 37,000 board feet of poles and logs.

If these yields are realized, the 42-year stumpage return will be about \$1,025 per acre—over \$24 per acre per year. If, instead of selling wood on the stump, the trees are cut and sold as posts, pulpwood, poles, and sawlogs, the return per acre is estimated at \$3,069, or \$73 per acre per year.

Perhaps these figures can't be applied to the 200,000 acres of new pine forests in the Valley. But let's cut the estimate in half to be conservative. Let's say that we might expect \$1,500 worth of primary wood products from an acre of pine plantation at age 42 years. That adds up to \$300 million. And if you think about a million and a half



tension agency costs are added to landowner costs, then the state and local contributions to the reforestation project outweigh the federal contribution.

Benefits

Let us consider for a moment the benefits of reforestation. What does it mean to the people of the Valley to have 224,300 acres of forest they didn't have before?

In the first place it means that many acres are protected against erosion and doing a better job of water control. It also means a valuable economic addition to the resource base of the region.

We have an experimental watershed in the Norris Reservoir area where we have measured the effects of reforestation over a 15-year pe-

Tree Branch, hydraulic engineers have been accumulating data since 1941. That year 50 percent of the land was idle, 23 percent in forest, and 27 percent in eroding pasture and row crops. A lot of the top soil was gone and runoff had carved numerous deep gullies.

Hydrologic measurements were taken for five years without any change in land use. Then the entire watershed was reforested. Gullies were controlled with simple brush and wire check dams.

After five more years, surface runoff had been reduced 35 percent. Peak discharge from individual storms was cut 75 percent. Soil loss was reduced from 24.2 tons to 2.5 tons per acre per year.

So much for the watershed protection benefits. Now let's look at the

acres reforested instead of 200,000, you have a forest products potential of \$2.2 billion.

And remember, this is the value of primary products only. It doesn't include the pulp and paper products made from pulpwood or the lumber and other millwork made from logs. If our prediction is based on these finished product values, it might well be in excess of \$5 billion.

Looking Ahead

The economic and watershed protection benefits of reforestation justify an all-out effort to complete the job as rapidly as possible. To plant a million and a half acres will require something over a billion seedlings and from half a million to two million man-days of labor, depending on the degree of mechanization. It's a sizable undertaking, but well worth the effort.

We believe a 15-year program, based on 80 million seedlings a year, is within the realm of reason. These are the prerequisites:

- 1.) *Nursery facilities to produce 80 million high-quality, low-cost seedlings a year.* TVA's two nurseries can produce 50 million of these. State nurseries would have to provide the other 30 million.
- 2.) *An assured, adequate supply of seed of the species desired.* Producing 80 million pine seedlings a year would require about 15,000 pounds of seed or about 20,000 bushels of cones. Collecting, processing, and storing this much seed is a sizable job in itself. But we have had twenty years of experience. In addition, we're studying the possibility of producing seed in seed orchards. This means pick-

ing out the best trees as seed producers and giving them all the growing space they need. Such a plan might solve the seed procurement problem and at the same time raise the quality of the seed.

- 3.) *A promotional campaign that would induce more landowners to plant trees.* Such a campaign should stress both watershed protection and economic returns. There is no conflict between the two because the forest that is managed for continuous full production is also a good protection forest.
- 4.) *A rapid, economical seedling distribution system.* The system now in use, involving state forestry and extension service personnel, is adequate.
- 5.) *An accurate system of evaluating results.* A satisfactory plan for checking survival has been developed.

Here in one major river valley is the opportunity to check the practical effects of reclaiming the bulk of the potential forest land over a relatively short period. The economic benefits are indisputable. And there is very good evidence that the watershed protection benefits may be just as valuable.

Reforesting 1.5 million acres would cost the cooperating agencies about \$15 million—\$1 million a year for 15 years. That's the public cost. Landowners would invest about the same amount in planting costs.

From these hand-planted forests we could expect to harvest, over a half-century or less, 750 million fence posts, 12 million cords of pulpwood, and over 27 billion board feet of poles and sawlogs.

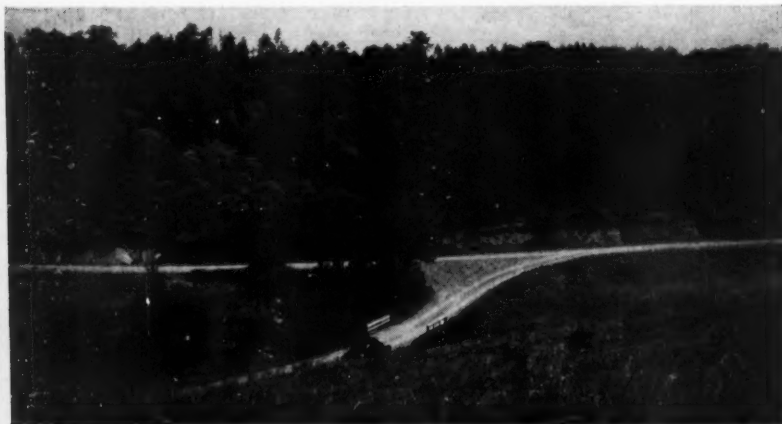
The total cost of the project—seedling production, distribution, and planting—could be recovered within 15 to 20 years of planting date—from product sales alone. There would be added dividends in the form of watershed protection, soil improvement, and water control.

And in planting and caring for these 1.5 million acres of plantations, landowners would learn to appreciate the value of the 11.5 million acres of forest land they already have—forest land that is now only one-third as productive as it can be.

Tree planting is very often the first step in an awakened conservation consciousness that spreads far beyond the few acres planted.



Photo above is a "before" view of a project in Buncombe County, North Carolina, in 1936. Fourteen years later, photo below, the hillside had been stabilized and again was producing good growth



How To Plant A Tree

• *Applicable to Any Coniferous Variety*



1—Waste no time getting trees in the ground after arrival from the nursery. A good root system is the first essential to successful planting, and roots dry out rapidly



2—Trees should be "heeled in" if not planted immediately. Dig an open trench and slant one side. Place the trees in layers on that side and keep wet. Tamp soil around roots



3—On the day of planting, keep tree roots damp with wet moss or by dipping in a puddle like this one. Never let the roots be exposed to the sun or wind, even for an hour



4—A good tool for planting by hand is an ordinary mattock. One stroke should make a hole big enough for the roots of a two-year-old seedling to spread out. Roots need room



5—Now set the tree in the hole as deep as it was in the nursery, as shown by the collar mark on its stem. See that the roots are well spread out, and then fill in with loose dirt



6—Lastly, pack dirt firmly around the tree with the heel or toe of the shoe, so that it will stand upright. From here on it will shift for itself if given reasonable care and protection

Planting America

By ROLAND ROTTY

A NEW milestone was achieved in 1954 in the history of American reforestation. For the first time, two states—Florida and Georgia—reported the reforestation of 100,000 acres during a single year. Florida reported 100,660 private acres, 3,470 state acres and 2,500 federal acres planted. Georgia reported 100,989 private acres, 948 state and 1,527 federal acres planted. In contrast, 10 years ago (1945) Florida reported 5,542 acres planted and Georgia 7,000 acres.

Elsewhere in the nation 1954 planting gains showed a 13 percent increase over 1953. Total acreage planted last year according to the

Forest Service report on Tree Planting Cooperation was 811,066, an increase of 95,518 acres over 1953. Comparable figures of the past few years are: 1954—811,066 acres; 1953 715,548 acres; 1952—522,935 acres; 1951—456,368 acres; 1950—497,507 acres; 1949—347,918 acres.

In six years the nation's rate of tree planting has increased 133 percent.

This is, of course, a remarkable thing and many people can be justifiably proud of their part in it. However, such "total" statistics give a somewhat distorted picture of the true situation. In the planting report of 1953 the statement was made

AFPI photo
Millions of seedlings are being planted this spring near Arkadelphia, Mo.—scene of a 10,000 acre forest fire Labor day weekend

that "when the details of the year's work are considered separately, many reasons can be found for either 'pointing with pride' or 'viewing with alarm.'" This situation continues. The record area planted is an impressive fact, and in a few states the sizes of the planting programs are something undreamed of a few years ago. But the counterbalancing facts are that more than half of all the states show no increase over 1953 or are even reducing their private- and state-land planting programs. Many states have programs extremely small in relation to the areas needing windbreaks or reforestation. The current annual rate of planting is hardly more than one percent of the total area needing planting, even if no allowance is made for planting failures or premature harvest.

Accomplishments in 1954 by ownership classes are as follows:

The federal government planted 73,017 acres of the land in its custody, a decrease of 4,595 acres from those planted in 1953. This decrease is mostly due to less planting on Atomic Energy Commission lands; the plantings on the national forests and other federal lands increased very slightly or remained nearly unchanged.

The states and other non-federal public agencies planted 50,711 acres, a decrease of 13,080 acres. This decrease occurred because 10,000 fewer acres were planted on state forests and 3,000 fewer on other state lands. In justice to some of the states that reduced their state land planting, it must

Growing trees and growing boys and girls have much in common. If encouraged, most youngsters quickly develop a green thumb in the springtime



be pointed out that they did so to get trees for orders from private land planters. There was little change in the amount of county and municipal planting.

Private landowners of the 48 States, Hawaii, and Puerto Rico, planted 687,338 acres, an increase of 113,193 acres—about 21 percent—over 1953.

In 19 of the states the private land planting increased 145,600 acres above that of 1953.

In 13 of the states the private land planting was approximately the same as that of 1953.

In 18 of the states the private land

is two-thirds of all that was done in the 48 States, Hawaii, and Puerto Rico.

This concentration of two-thirds of all planting in just nine states emphasizes how small is the amount of planting being done in some of the others. A few of the arid states of the West, of course, have relatively little opportunity for successful reforestation, but many others have great needs and very small programs. The problem facing the national program is to help increase the planting in all states to a point proportionate to the reforestation and shelterbelt needs in those states.

ed by the forest and other industries combined is 45 per cent of the private land planted.

A tabulation of the forest tree nursery facilities in the nation during 1954 follows:

Agency or owner	Active nurseries	Actual or estimated output of trees
U. S. Forest Service	12	77,382,000
Soil Conservation Service	8	31,700,000
Tennessee Valley Authority	2	20,000,000



AFPI photo

Every logging contractor and forest industry in Arkadelphia area is cooperating in the planting job. International Paper Co. and the Ozan Lumber Co. are spearheading the operation



These youthful tree planters are Miss Angie Bush, of Camilla, Ga., and Ray Hals, of Hopeful, Ga. The reforestation project on which they are working is located in Mitchell County, Ga.

planting decreased a total of 37,000 acres. Four of these states, however (Alabama, Arkansas, Louisiana, and Oregon), usually have extensive programs but this year their activities were curtailed due to a scarcity of seed or planting stock. Therefore, the decrease for these states, at least, is temporary.

Other states planting extensively in 1954 were: Louisiana—68,124 acres; Mississippi—65,295 acres; Pennsylvania—42,900 acres; South Carolina—41,761 acres; Michigan—37,707 acres; New York—37,297 acres; Alabama—35,587 acres.

In these nine states together were planted 539,765 acres. This acreage

Especially noteworthy is the amount of reforestation being done by industrial organizations on their own lands. The forest industries planted more than a quarter million acres of their lands in 1954, and other industries planted 44,000 acres. States where industries were especially active in planting were: Alabama, 17,400 acres; Arkansas, 9,300 acres; Florida, 61,900 acres; Georgia, 49,800 acres; Louisiana, 50,500 acres; Mississippi, 22,100 acres; North Carolina, 7,100 acres; Oregon, 5,100 acres; Pennsylvania, 18,500 acres; South Carolina, 15,200 acres; Texas, 15,200 acres; Washington, 10,400 acres.

The amount of land being plant-

State Foresters or similar	93	502,171,000
Cities and counties	2	166,000
Soil Conservation Districts	5	5,585,000
Paper industries	11	45,600,000
Lumber industries	4	9,312,000
Private commercial	36	55,000,000
TOTAL	173	746,916,000

With the close of the 1953 production year, the SCS ceased tree production at four of its nurseries,

(Turn to page 57)

Woodlot owners across the country may find the answer to their own problems in the cooperative approach of Michigan residents

By ARTHUR H. CARHART

Without fanfare or ballyhoo, a small band of American pioneers living in the north-eastern corner of lower Michigan have blazed a trail in forestry that marks an almost spectacular way toward a more adequate future supply of wood for the nation.

Local residents with homes near East Tawas, have banded together at the Au Sable Forest Products Association, a cooperative. They work independently as individuals in harvesting the wood supplies, pool their cut, and have set a blazing example of how owners of small

woodlots across the country can apply forestry principles and make their holdings profitable.

What's so striking about that? Just this.

We have about 624,000,000 acres of land judged best suited to being in forest. Of this gross area about 461,000,000 are rated as "commercial" forests—land from which future timber supplies must be harvested.

The 181,000,000 acres in our national forests represent a considerable backlog in timber-producing land, but that total includes

quite a spread of land above timberline or covered with scrub growth which is extremely vital in protecting watersheds but grows no sawtimber. There are millions on millions of acres in our national forests that are producing and can produce lumber and other highly usable wood, but not all the gross acreage is "commercial" forest land.

The fact the nation must face is, that an estimated 344,973,000 acres of land best suited to growing productive forests are privately owned. The astounding second fact to face is that ownership of these lands lies

Forest Beacon in Michigan

Members of the Au Sable Forest Products Association work independently in harvesting their wood supplies, but they pool their cut



in the hands of over 4,225,000 separate owners! The average size of these private holdings is 82 acres!

Part of this total of privately owned acreage is held by large companies. But when we deduct all holdings over 5000 acres we run head on into the fact that about three-fourths of all privately-owned forest land is in the hands of about 2,222,000 owners, and the average size of these properties is 62 acres.

A swiftly-rising movement sweeping across our timberlands is bringing millions of acres in the large holdings of industry under sustained-yield management. Industry also is pounding away at the need for similar progressive practices on woodlots through its "Tree Farm" program. But there is need for every aid available to bring every productive acre into this type of management.

The nub of the problem of how we shall have adequate timber supplies in our tomorrows lies in these small holdings and the good forestry practices that must be applied to them. Before we can hope for this greatest segment of our forest lands to produce what they must in days ahead, the bulk of the four million owners of smaller properties, must be shown how their acres can be most profitable to them if they are put to growing timber.

That's what the Au Sable Forest Products Association has done—worked out a pattern for small operators to follow that can promise profit and stable economy for a local forest community and its folk.

The operations of the association lie in an area where great white pine forests once stood. Rampant logging, scorching fires blotted out those grand forests and jackpine captured the land. By the 1930s trees were large enough to be harvested for pulpwood. Working partly in the Huron National Forest, "gyppo" operators bid and bought stumpage, bringing in labor to cut the jackpine. When the blocks being cut were finished, the operator moved on; so did some of the people brought in to mop up contracted acreage. But some of these folk stayed, settled on small farms, became part of the community. And in some cases, they came close to needing relief assistance, for a small farm unit and no pulpwood cutting couldn't bring in sufficient funds to support home and family.

By the 1940s the blocks of timber that were ready for pulpwood harvest were in small units and scat-



What better place than the local store to discuss common problems

tered. Though they were offered for sale the cut-and-get-out operators did not bid on the stumpage. They saw no profit in the scattered stands. With just a thread of desperation in their thoughts, a lot of courage, know-how and determination, the local folk began to dig into their problem as they sought a means for community rehabilitation—and the chance for individuals to find betterment for themselves.

At that time John E. Franson was the forest ranger at East Tawas. He saw the smaller blocks of timber ready for harvest, there were men in the community to cut the pulpwood bolts, operators would buy the wood—but buyers certainly were not interested in spending time dickering with individuals who, between farming seasons, might cut a half dozen or even ten or twenty cords of wood. If there were some way to pool all the pulpwood, bring it together, have enough supply so the larger, established companies would buy the lot—

At that time it was possible for a cooperative organization to borrow funds to start a business from the Farm Security Administration. It won't take much, thought Franson. The fellows will cut the bolts on their own time, no wages to be

paid out immediately, they'll get their return when the whole batch of pulpwood is sold. All that's needed, really, will be the will to make this idea a reality.

"Aye don't t'ink she work," a rawboned Scandinavian told Franson. "Vee leetle follers, vee aren't business men. Vee vorkers!"

Workers; of course. That was what was needed. Some of the local folk saw the picture that Franson suggested. Others opposed getting into any mess of the kind. There was argument, persuasion, belief, determination and when the Au Sable Forest Products Association was organized under the laws of the Michigan Corporation and Securities Commission, it asked for and got a federal loan of \$3,000 to begin operations. Big business—that \$3,000 that began as the working capital of the association!

Big? It was the money spark that started a beacon blazing. It started wheels turning that ground out profits.

Association members worked on their own; individually or as family units. The pooled cut was handled by the association as selling agent. There was no run-away financial spectacle the first season. The gross
(Turn to page 53)

RED MULBERRY

Morus rubra Linnaeus

By WARREN D. BRUSH

The Mulberry Family or Moraceae includes about 1,000 species of trees, shrubs and herbs which occur very largely in the warmer regions of the world. They are characterized by a milky sap which in some species is a source of rubber. Other important members of this family are the fig, the hop and the hemp, species of which have been naturalized in southern United States. The genus *Morus* (which is the ancient Latin name for the mulberry) has about 12 species of trees and shrubs native to the temperate and subtropical regions of the northern hemisphere. White mulberry (*Morus alba*) of China and Formosa is the most valuable species, the leaves constituting the chief food of the silkworm. This tree has been extensively planted in eastern United States, and another species, *nigra*, a native of Persia, has been grown in the southern and Pacific Coast states for its large juicy fruit.

The red mulberry is a rather small tree usually from 30 to 50 feet in height with a short trunk from one to one and a half feet in diameter, sometimes attaining a height of 70 feet and a diameter of three to four feet. The trunk often divides near the ground into many stout, spreading branches, forming a compact, broad, round-topped crown. The twigs are slender and somewhat zig-zag, dark green with a reddish tinge when they first appear, becoming in their second and third years dark reddish brown. Terminal buds are absent. The lateral

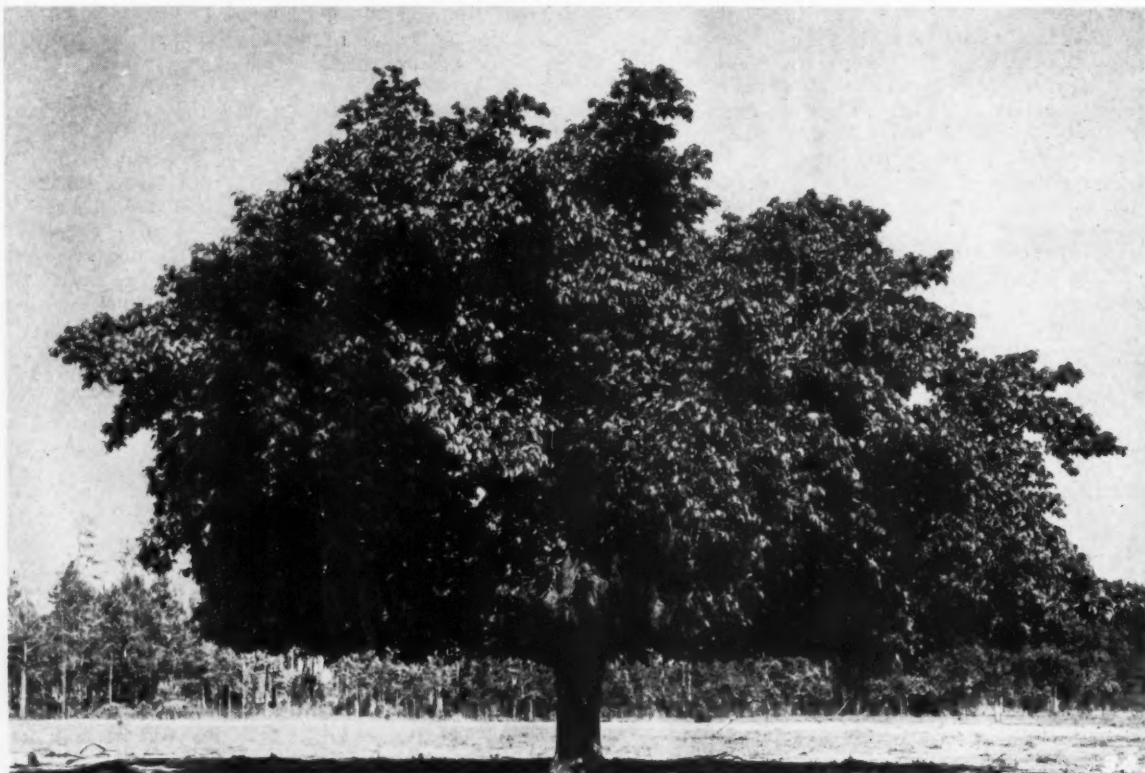
buds are ovate, rounded or bluntly pointed, and about one-fourth of an inch long with six to seven shining chestnut-brown scales.

Although not abundant anywhere, occurring as a single tree or in small, scattered stands, its area of distribution is large, covering nearly all of the eastern United States from western Massachusetts and Connecticut through central New York, southern Ontario, southern Michigan and Wisconsin, southeastern Minnesota and southeastern Nebraska, south to eastern Texas and southern Florida. It prefers deep, moist soils such as are found in rich woods and river valleys and on low hillsides, and reaches its largest size and greatest abundance in the basins of the lower Ohio and Mississippi Rivers.

The alternate, simple, abruptly-pointed leaves are from three to five inches long and two and a half to four inches broad. Thin and membranous in texture, the margins are singly or occasionally doubly toothed. They are variable in form, some (especially on young shoots) with from three to five lobes or with a single lobe on one side, dark bluish green and smooth or rough above, pale and soft hairy beneath, borne on stout petioles three-fourths to one and a fourth inches long, which exude a milky juice when broken. They turn a bright yellow in the early autumn before falling.

In May or early June when the leaves are about half

A rather small tree, the red mulberry usually ranges from 30 to 50 feet in height



grown the flowers appear, the male and female in separate, narrow catkins either on the same tree or on different trees. The male or pollen-bearing catkins are from two to two and a half inches long and the female or seed-bearing ones are shorter, one inch or less. The berry-like fruit, about one inch long, is red when fully grown, becoming dark purple or nearly black when ripe. It is sweet and juicy and very attractive to birds. The small, oblong, sharp-pointed seeds are light brown in color.

On young stems and branches the bark is smooth and brownish, becoming from one-half to three-fourths of an inch thick, dark reddish brown and divided into irregular longitudinal plates which tend to separate on the surface into long, close scales.

The wood is coarse-grained, soft, light in weight, weak and decay-resistant. The heartwood is pale orange with thick, lighter colored sapwood. Because of the small size of the tree and its scattered occurrence the timber is of little commercial importance. It is used for fence posts, boat building and small articles of furniture.

Red mulberry is a tree of rapid growth but it does not reach great age and is generally mature at 100 years or less. It is frequently planted as an ornamental shade tree and also for its fruit which is valued for fattening hogs and as food for poultry. It is a particularly desirable tree for bird sanctuaries. A number of horticultural varieties have been developed which are valued for ornamental purposes and for their large fruit.



The berry-like fruit, about an inch long, is red when fully grown, becoming dark purple to black when ripe



Natural range of the red mulberry



The female, or seed bearing, catkins of the tree are somewhat shorter than pollen-bearing male catkins



Alternate, simple, abruptly-pointed leaves are three to five inches long, two and a half to four inches wide



Bark is dark reddish brown, separated into longitudinal plates which tend to separate on surface

HENRY GRAVES

... the Great Conserver

By W. B. GREELEY

FEW eyes remained tearless during the farewell of the Forest Service family to Gifford Pinchot, early in 1910. Eugene Bruce, tough lumberjack from the Adirondacks, sobbed audibly. We were saying "good-bye" to our inspired leader and warm personal friend, to the MacGregor of the Clan. President Taft's military aide had delivered a summary dismissal from the public service at the Pinchot home a few evenings before. It was the culmination of his fight with Interior Secretary Ballinger.

The "family" farewell was made less poignant by the universal belief that G. P. would come back. He himself prophesied that a tide of public opinion would bring the conservation movement back in full flood. As the Scots looked for the return of their darling Charlie Stuart, we comforted one another. *He will be back*, as Chief Forester, as Secretary, very likely as President. Such was our faith in our brilliant leader.

End of the Great Crusade

Gifford Pinchot did not quit over any issue in forestry. Public control of sources of power had become a fighting plank in his campaign for conservation. He disagreed violently with the course of Interior Secretary Ballinger in progressing for patent the Cunningham Coal Claims near Controller Bay, Alaska; and felt that his action violated provisions of the law against monopoly. The Cunningham claims were supposed to contain coal deposits up to a hundred million dollars or more in value; and were under option to the Morgan-Guggenheim Syndicate of New York.

G. P.'s love of battle and zeal for the public welfare led him to make a "cause célèbre" of Controller Bay. President Taft settled the matter

officially by a personal opinion which sustained Ballinger on every point. Pinchot retorted with an open letter to Senator Dolliver, in justification of his own action and those of his associates. There upon the Presidential ax ended his career as Chief Forester.

The Challenge to the Forest Service

But even as the shouting and tumult of the Pinchot-Ballinger controversy reverberated across the country, it became apparent that political reaction against the new order on the public domain had set in.

It went deeper than President Taft's mild but malleable attitude toward the Roosevelt program or his good-natured listening to the western politicians who crowded around him. Secretary of Agriculture James Wilson, a staunch conservationist of the Roosevelt school, was greatly upset by the Pinchot attack upon Ballinger. He felt that the Forest Service had been "given too much rope"; and instituted his own stricter controls of Service activities, especially of its expenditures and publicity.

Many local pressures against na-

Chief Forester Graves strikes a familiar pose in the woods





Henry Solon Graves

tional forest withdrawals, by grazing, mining, timber and water-power groups, took the form of demands for eliminations. The "locking up" of scattered areas of agricultural land from the hardy homesteader was an issue made to order for the western congressman. A convention of state governors in 1910 discussed the transfer of the great bulk of federal public lands to the states; and a rider on an appropriation bill to do just this polled an astonishing number of Congressional votes.

The challenge to the Forest Service was plain. The old forces of opposition to the national forests were again on the march. But many of the plain people who should have been on our side were still unconvinced. We had to bring the idealism of the great crusade down to earth. We had to translate it into better living conditions and opportunities for Joe Doak and his children. We must make faster progress in proving benefits of public forest management by its visible fruits.

There was plenty of discouragement, as well, in the general forestry picture of the United States. The staggering proportions of the job of stopping forest fires was burned into the weary wardens of the Service and of many western timber companies in the cruel summer of 1910. We saw the timber on four million acres go up in smoke and buried 78 fire fight-

ers, killed in action. In all the country, but eleven states had any semblance of organized forest protection; and the average year saw forty or fifty thousand fires rage over eight or ten million acres. Beyond a few paper and power companies, there had been no visible start in commercial forestry. The lumber industry was over-burdened with speculative investments in timber and struggled through one period of market distress after another. The job awaiting the successor of Gifford Pinchot was not an easy one.

Our Great Assets: The Service Itself and The Public Opinion Behind It

But the Forest Service did not enter the arena unarmed. Gifford Pinchot had created an organization of some 2,500 men and women of far more than average technical capacity. He had drawn them from all the walks of life that deal with the forests and ranges. Trained foresters, wood technologists, and animal husbandry men rubbed elbows with woodsmen who had swung axes most of their lives and stockmen born in the saddle. Most important of all, G. P. had infused these people with a remarkable spirit of public service. It was almost a passion. They took seriously the number one commandment of national forest administration—"greatest good of the greatest number in the long run." Furthermore, they were realists. They disdained the red tape of bureaucracy. They changed a regulation overnight to fit the needs of a rancher on Lone Squaw Creek. They did everything that the law did not specifically forbid; and were not too tender of the law in their interpretations. They got results and had a fighting edge ready for anything.

A prime reason for the effectiveness of our little army was its complete protection under the merit

system of the U. S. Civil Service. It covered your first appointment, the permanency of your job, and your chances for promotion. This was won in the battle gloriously fought by G. P., with help from the White House, when the "Reserves" were transferred from the politics-ridden General Land Office. It was one of our hallmarks of pride and distinction. Through and through, we were an organization of career men.

The great ally of the Forest Service was the backing of public opinion. It was one of the legacies of Theodore Roosevelt and Gifford Pinchot. These men had made forestry—in the broad—the nation's business. Whatever might be the Congressional verdict on this immediate issue or that, the nation's business it remained. The tremendous body of men and women who had learned to view forestry in this serious light, as *their* concern, and the newspapers and magazines which they read, turned largely to the Forest Service for information and guidance. They believed in the sincerity and independence of the Service. They were readily organized for mass political action to support Service programs like the Weeks Bill or to resist concessions to special interests. Here, under our democratic way of doing public business, was indeed a potent force; and few incoming Presidents ever discovered it more quickly than William Howard Taft.

Over at headquarters in the Atlantic Building, it was soon realized how the garrison had been strengthened by the arrival of a new commander.

New England to the Front

The incoming Chief was a short, solid man with snapping black eyes. He was New England to the core,

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Among the truly "green" in forestry is the man who took over Gifford Pinchot's post when the latter stepped down as Chief Forester of the United States



Group listens to Albert G. Hall at one of business sessions

The Consulting Forester

Discussion of professional relations with clients highlights two-day meeting in Washington, D. C.

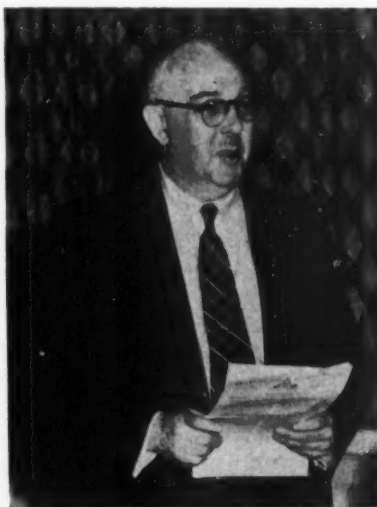
CONSULTING foresters from 11 states met in Washington, D. C., March 13 and 14, for the annual spring meeting of the Association of Consulting Foresters. Discussions centered around professional and business relations with clients, greater service to owners of small woodlands, federal and state programs affecting private forestry, and the possibilities of the expansion of forest insurance.

Lead-off discussion was a session conducted by Julius Kahn, forester and attorney of New York. Mr. Kahn, one of the framers of the Canons of Ethics of the Society of American Foresters, explored the 25-point ethical code as it applies to forester-client relationships.

A paper by Thomas F. Schweigert of Northern Tree Company, Petoskey, Michigan, pointed up the opportunities of service to small landowners and the areas of cooperation among private consulting foresters and programs of government and industry.

Fred G. Ritchie, acting chief, Agricultural Conservation Program Service, U. S. Department of Agriculture, discussed the place of agricultural payments in private forest land management and the effect of federal cost-sharing on such activities as tree planting and timber stand improvement.

At a special luncheon on March 14, James B. Craig, editor of AMERICAN FORESTS, brought up-to-date the progress in The American Forestry Association's Program for American Forestry. To complement the activation of the various phases of the program, the speaker said that AMERICAN FORESTS was giving thought to a series of special issues on forestry progress in the nation. Prompted in part by the good reception to a special issue on the first 50



Julius Kahn, forester and attorney of New York, as he discussed code of ethics by which consulting foresters are bound

years of the Forest Service, the series would highlight the development of state forestry, industrial forestry, consultants and the forestry schools. In this way the association's magazine could perform a service in bringing readers up to date on past forestry accomplishment and gains being made under the new program, the speaker said.

Monroe F. Greene, forester with Seibels, Bruce and Company, Columbia, S. C., explained his company's new program for insurance of forest plantations and merchantable timber against losses from fire. The company's policies have had the approval of eight southern states and are gradually being extended to include other states.

Mr. Greene and Mr. H. G. Kaminer, also of Seibels, Bruce & Company, said they saw consulting foresters playing a big role in their forest fire insurance project. Consultants, they explained, would be called on in the various states to make appraisals for the underwriters in issuing insurance and also in making damage estimates. Standard application forms have already been approved and published in the states of South Carolina, Georgia, Florida, Tennessee and Texas.

Base rates will be variable according to states, Mr. Greene said. Plantations will be insured only in conjunction with merchantable trees. On extent of liability, the firm is liable only for the difference between the value of the standing trees and/or plantation trees before the fire and salvage value of the trees immediately after the fire. The policy premium also includes a charge equal to 80 percent of the annual premium for the additional hazard incurred during the dry season and in case of cancellation by the insured, the return premium will be calculated between the dry season charge and the full premium charge.

Greene and Kaminer said they were being supported in their pioneering efforts by a number of insurance firms in this country and Lloyds of London.

In executive session, the group appointed a committee to work out ways and means of developing cooperation with public foresters and with the forest industries toward greater use of consultants and their on-the-ground services in the problems of small woodland management. A public relations program to acquaint the public generally

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A white ibis, or white curlew, in graceful flight

Call of the Curlews

By HUGO H. SCHRODER

WHITE ibis, or white curlews, as they are more familiarly known usually return to the same location year after year. We were investigating the possibility of these birds having returned to the shores of Lake Washington to nest as they had the previous year when the warden warned us that the birds had just arrived a few days before and that they would be likely to depart if we entered the area. Therefore we drove a half mile east to watch the ibis so we wouldn't disturb the birds at their nesting. We have since found out that ibis are quite easily disturbed.

It was late afternoon, so we watched flock after flock coming into the rookery to roost. Most of the incoming birds were white ibis, but occasionally a group of glossy ibis came in between their white relatives. Also, some flocks of American egrets came in, and thousands of

birds came in from the St. Johns marshes where they had been feeding. As the sun began to go down it was a beautiful sight to see the birds outlined against the sunset and the green of the trees. Thousands came in until the trees had the appearance of being hung with white blossoms. We watched as long as we could see. Not until the sun went down did we take time to eat.

We did not return to this rookery later, instead we found another rookery on Lake Butler, much nearer home. Then we arrived while the birds were gathering nest material from the marshy area. Waiting till some time later before venturing into the nesting area, we saw some 5,000 or more pairs on nests around the outside borders of the island in the lake as we circled it in our rubber boat. Birds were at their

nests in trees and bushes, sometimes a half dozen or more nests occupying one small tree.

During that nesting season we visited the isle at various times to secure films of nesting birds or birds going to and from their nests. John, my son, secured movies, while my films were taken with Graflex or Graphic.

During many filming experiences with white ibis, I discovered that they fly much more rapidly than many of the other subjects I had filmed; I soon learned to use a faster shutter speed to keep them in focus.

Regardless of how often I saw them they were always interesting to watch; I often saw flocks of thousands of the curve billed birds with their contrasting plumage of white bodies with black wing tips, brightened by their carmine bills, legs and feet, or orange-red according to season.



THE STEARNS CASE

Looking up the Cumberland River from Goodin Ridge on Cumberland National Forest

The Stearns Company's request for a permit to strip mine for coal on Cumberland National Forest has touched off a new Kentucky "feud"

IN the bleak little town of Stearns (Kentucky) in a little weather-beaten church on a hillside in the course of a wearing day (January 27) a case of national importance was argued all day before a group of about thirty men and women. At the hearing, called by Charles P. Taft, son of the late President William Howard Taft, it was announced that anyone who wished to be heard might speak. In the language of a newspaper reporter "nearly everyone did speak."

The hearing was occasioned by a request of the Stearns Coal and Lumber Company, of Stearns, headed by Robert L. Stearns, Jr. for a permit under which his company might strip mine for coal such land in 47,000 acres of cut-over timberland as might be selected by the corporation as suitable for strip mining. The 47,000 acres was sold by the Stearns Coal and Lumber Company to the Federal Government with subsurface mineral rights retained by the donor. The question at issue; a question which may be submitted finally to the United States Supreme Court, is whether retention of the right to subsurface minerals gives a donor, or a vendor, of land the right to disturb the surface in exercise of his right to minerals under the surface.

That question affects all of the watershed forests the United States Government now possesses as a result of diligent effort since 1911, when the Weeks Forest Law was passed, to acquire forests that are vital to the economy of the nation. It affects also every national park in the United States and many other reservations in which there is land in which mineral rights were reserved. Minerals are not necessarily coal.

The hearing to which I refer was called by Mr. Taft, a Cincinnati lawyer, as a result of Ezra Taft Benson, Secretary of Agriculture, having appointed him and Robert L. Wilhelm, of St. Clairsville, O., an owner of strip mines in the Buckeye state, and Dr. Samuel T. Dana of Ann Arbor, retired dean of the University of Michigan's School of Forestry as his consultants after the Federal Forest Service refused the permit the Stearns Coal and Lumber Company asked, and after Mr. Stearns' appeal, to Mr. Benson, from that decision.

The decision of the Secretary of Agriculture may make conservation history, political history, even United States history. What the consultants may recommend may be soon forgotten, along with what was said at the hearing Mr. Taft called. Lit-

tle was said that was of any importance, hardly anything that was relevant to the actual issue.

Civilizations have perished because watersheds were neglected. At Stearns the uppermost question in the minds of the consultants seemed to be McCreary County citizens—a large proportion of citizens of that sparsely populated county as are employed of Mr. Stearns—were disposed toward strip mining in Cumberland National Forest. Of the consultants Dr. Dana could be considered, probably qualified as a technician to entertain valuable opinion as to how the proposed stripping would affect Cumberland National Forest. Nobody could, I assume, imagine that two days "investigation" of the forest by three men who viewed the earth's face from a plane, from railroads and from automobile roads in winter could give among them any valuable information he could not have gotten in the Congressional Library in Washington.

The hearing was about eight hours of futile debate about matters of little interest, relatively, and of no importance in connection with the problem that grows from Mr. Stearns' request. If Secretary Benson should uphold the Forest Service which is subordinate to the Dept. of Agriculture, the next move



By TOM WALLACE

should he wish to make it, would be that of Mr. Stearns who might go into the courts. Should Mr. Benson uphold Mr. Stearns the case could, I think it almost surely would, go to the courts on the initiative of combined forces in the conservationists' world or at the expense of someone or some organization sufficiently provided not to be deterred by the court costs. The natural procedure of conservationists in such a case, should Mr. Stearns win in the Eisenhower Cabinet would be a suit for an injunction restraining Mr. Stearns.

No conservation project is superior in importance of protection of watersheds. Many watersheds are, like that of Cumberland River, too rugged to be protected permanently and economically by other cover than forests. In the region, trees protected from fire grow like weeds. Planting is not necessary.

Countless people who are called veteran conservationists have overlooked the bearing of watersheds upon national welfare; upon the possible durability of culture in the United States.

Pioneers looked upon forests as obstacles to progress.

About four centuries after Columbus "sailed the ocean blue" a professor of forestry at Yale attracted



The Barthell mine of the Stearns Coal and Lumber Company

attention by the statement that timber was "the essential material of civilization."

Nearly a generation later Dr. Gifford of the chair of tropical forestry in the University of Florida awakened in a small element of population a consciousness of the importance of watershed protection by saying that "even some professional foresters imagine that providing timber is the major function of forests."

Still later a distinguished educator said that if we could find a satisfactory substitute for wood in every use to which it has been put mankind could not exist without forests.

He had, obviously, pondered effects of denudation of watersheds, now reflected in the world's most famous deserts, in many of which the passing of civilizations and

causes of their passing is as plain as written history.

Israel's present projects, including planting 100,000,000 trees in the vicinity of Jerusalem, where erosion was caused by procedures less radical than strip mining; one of the causes of the passing of Babylon, the impoverishment of Solomon's kingdom, could be mentioned in this connection. And the damaged watersheds which existed in parts of our Southwest and in Mexico when white settlement began on the North Atlantic coast.

Yet at the Stearns hearings a major question, considered with gravity that was at once ludicrous and pathetic, yet easily understandable, was what McCreary County coal miners and lumberjacks out of work or in fear of becoming unemployed might think about strip mining that

would affect part of 227 square miles of timberland which, less than three generations ago, was virgin. That land was mined so vigorously that the last carload of logs soon will be hauled down a road which once wound through lumber camps that are not now even ghost towns.

When I visited the Stearns timber barony the year Calvin Coolidge did choose to run activity was robust. The drama of "development" was stirring. The song of saws was in the mood and the tempo of "Marching Through Georgia." As a scene of former employment of many lusty men the Stearns holdings now are instructive. The raccoon and the great horned owl are at a loss for lodgings. Steel rails that gleamed in moonlight have been rooted, red with rust, from the rotting ties and sold as scrap metal. Buildings have been razed for the salvage of lumber. But where Cumberland National Forest succeeded forest mining—and coal mining suspended because labor cost made underground mining unprofitable—trees are growing rapidly to make perpetual harvests possible and profitable; to give stabilized employment to men more numerous than steam shovel operators where strip mining is done.

Where miners of minerals under the earth's surface and miners of forests at the surface operated for two or three brief generations many of them now wait as hopefully—and as innocently because in their philosophy the last pickings are something over which the Lord gave man dominion—as the vultures on the Parsee Towers of Silence in Bombay await delivery of the next corpse which they will reduce to a skeleton.

Those who wait today for establishment of the precedent that industrial use of every natural resource, wherever situated, is to be given priority over any other use, camp at the boundaries of every wild reserve in the continental United States and Alaska. Their eyes are—regardless of where their camps are—on the case of the Cumberland National Forest.

The question that should be discussed is stated succinctly in a letter from William Voigt, Jr., executive director of the Izaak Walton League of America, to Charles P. Taft, chairman of the three-man board of consultants which called the hearing at Stearns: "The solicitor of the United States Forest Service has held in an opinion written for the Chief of the United States Forest

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The Stearns Company Stand

AN appeal by a Kentucky coal operator from a Forest Service ruling denying him the right to strip mine coal on land deeded to the Cumberland National Forest by the operator in 1937 last month was being watched with keen interest by eastern conservation groups.

The appeal was filed by R. L. Stearns, Jr., president of the Stearns Coal and Lumber Company, Stearns, Kentucky, who contends he reserved the rights to all minerals, of whatever nature, when he deeded approximately 47,000 acres of cutover lands to the national forest. The request to strip mine was denied by Regional Forester Charles L. Tebbe, of the Forest Service, Eastern Region. Mr. Tebbe told AMERICAN FORESTS last month that "large and consequential decisions hang in the balance" as an advisory committee named by Agriculture Secretary Benson studies the case. "The case in point involves 47,000 acres in Cumberland National Forest but 750,000 acres in four forests in three states will be affected by the outcome," Tebbe said.

Mr. Stearns told AMERICAN FORESTS "This is a serious matter, not only to our company but to the country as a whole. In the coal business, markets are low. You've got to strip coal today or you are out of business. Deep mining just can't compete with strip mining. Here at Stearns, where we have a population of around 2200 folks, some 1500 of them are dependent on our operations for a living."

While deep mining has been permitted on the national forests since 1937, one bone of contention is whether strip mining was going on in these lands as early as World War I, as Mr. Stearns contends. The operator claims that when he retained mineral rights to the lands deeded to the Cumberland Forest it means he has the right to recover those minerals in such manner as will enable him to compete with existing markets and conditions.

Mr. Tebbe told AMERICAN FORESTS that applications to strip mine have been denied on the basis that they are inimical to the public interest and would invite "inevitable permanent damage to land, water and attractiveness and usability of large areas of public land."

Mr. Stearns denying that his operations would injure any sizable area estimated that "around one or two percent—or not more than 1,000 out of the total 47,000 acres would be affected."

Studying the case following a public hearing at Stearns on January 27 are Charles P. Taft, son of the former President William Howard Taft and a Cincinnati attorney; Dr. Samuel T. Dana, former dean of the School of Natural Resources, University of Michigan; and R. L. Wilhelm, a mining specialist of St. Clairsville, Ohio and the appointee of the Stearns Company.

Dr. Dana told AMERICAN FORESTS early in February that "The committee has reached no decisions and has not even discussed the merits of the opposing arguments pending an opportunity to study the transcription of the hearing and the numerous statements that have been submitted. It will probably be a month before we meet again."

Why some conservation groups are lining up against any reversal of Regional Forester Tebbe's ruling is explained by Tom Wallace, veteran editor and newspaperman, also of Kentucky, on these pages. Gist of Mr. Stearns' case (which does not include material in the hearing transcript) is contained in his letter of August 20 to Robert F. Collins, Supervisor, Cumberland National Forest. At the request of AMERICAN FORESTS, Mr. Stearns forwarded this letter and pertinent sections of it are reproduced here:

"... The acreage involved consists of wild mountain land lying at the southwest tip of the Cumberland National Forest area in McCreary County north of the Kentucky-Tennessee State line. Such stripping as could be done in this mountainous area would be practically all contour stripping. There are three rather persistent seams of coal on the property, namely, Nos. 1, 1½, and 2 seams, all lying well above drainage. There are also a few acres of No. 3 seam coal that might be susceptible to stripping operations. This seam in most places has eroded away. Where this No. 3 seam is found it is at the very highest peak of the mountain. As a general prop-

osition all seams are overlaid with sandstone rock and just how successful a stripping operation would be with this rock overburden no one can accurately forecast at the present time. However, on the contour stripping the dirt and rock would necessarily have to be cast over the side of the mountains and can never be picked up and replaced. The mountains are very steep and clifted so there would be many areas where stripping would not be feasible at all. At the moment I would judge that not over one or two per cent of the acreage involved could be successfully stripped.

"Strip mining on privately owned acreage is unrestricted and competition is such that it would be impossible for us, under the present economic situation, to operate under the regulations imposed by the Forest Service's stripping permit. About the only outlet for coal in this area is to the public utilities and that practically means TVA. The deep mines in this section are rapidly going out of business as they are not able to meet competition set up by the strip mines of the area. In our case, for example, we closed a 1200 ton a day mine three years ago and closed a 1600 ton a day mine April 1st of this year and also closed a 1000 ton a day mine April 1st of this year. This leaves only one 600 ton a day deep mine operating on this property. This mine is operating at a loss. We have practically completed the dismantling of two of our largest mines. Our experience has been the experience generally prevailing in this section as other deep mines have closed and their equipment is also being pulled out and offered for sale. As we see it, this situation will continue as long as strip mining tonnage is available to the public utility users of coal. The strip mining in this area is not by any means inexhaustible but the mining companies who are not able to come out from underground and get into stripping operations must necessarily close their mines and cease operations. This state of affairs could last, as a guess, for five or ten years or until such time as the strip mined coal has been pretty well exhausted, at which time the public utilities will have to pay the price of deep mined coal, if they are to stay on a coal basis. Then deep mining will again be the order of the day.

"Our firm has been in business in McCreary County since 1902 and

we have established communities, not only here at Stearns but at our mining camps, embracing churches, schools, recreation facilities and all other facilities necessary to small communities. Some of our employees are in the third generation. All through the last fifty-one years our payroll through our coal and lumber operations has been the sustaining factor of the county. There have been years that our payroll has run well over three and a half million dollars. You can readily appreciate that this community is dwindling as our payrolls fall off as a result of having to close our deep mines. For example, we had a peak production in 1929 of 970,000 tons. In 1944 our tonnage was 946,000 tons. By 1952 this tonnage had dropped to 261,000 tons and 1953 is going to show another drastic drop to around 150,000 tons.

"People of this mountainous area are perhaps among the purest Anglo-Saxon stock to be found anywhere in America. All of our employees with the exception of a few are native born, white American citizens. These people are clannish to a certain degree and are absolutely lost when they have to go to the cities to find employment. As a general proposition they have large families and accommodations can not be found for them in the cities. This area is their home and they are very loath to leave. Over sixty per cent of our people own their homes. Our payroll remains practically the only payroll of any size in the county. If our company can not adapt itself to the times and strip the coal that is available to our operations then the towns will become ghost towns and the county will be deserted.

"We think if we are allowed to strip coal on the same economic terms as our competitors are stripping coal we shall be able to bridge the gap between the time when the deep mines are going out, as they are at present, and when they will again come back as necessity dictates at some later date. The real coal veins of this country lie deep under the hills and are not susceptible to stripping. The real reserves will have to be recovered by underground operations.

"Running through the acreage we deeded to the government in 1937 is a shortline railroad which has its physical connection with the Southern Railway at the town of Stearns eight miles north of the Kentucky-Tennessee state line. Over ninety-five per cent of its traffic is

coal. Practically all of the strip mined tonnage from this acreage would be loaded on railroad cars on the tracks of this shortline carrier and this tonnage would sustain it, too, thru the years until deep mine operations again become profitable. This railroad was originally built to recover the timber and coal. In those days there were no roads. Now the big timber is gone. Good roads and improved trucks will probably haul future timber growth. Should this shortline carrier be forced to cease operations and pull its steel it is nearly a certainty that it would never be reconstructed for any future deep mine coal haul. Lacking rail transportation the deep mines would never become an actuality again and millions of tons of valuable coal reserves would be lost to posterity.

"With these things in mind our representatives offered the following proposition to you gentlemen:

1. We to deed to the Forest Service one acre for each acre strip



Huge tools like this one, used in strip mining, gouge great chunks from earth

mined. On this new acreage deeded we to retain the mineral.

2. The Forest Service to retain the acreage stripped. In this way there would be no cutting into the present acreage owned by the Forest Service.

3. Our company to pay for timber destroyed or damaged by the rock and dirt being cast over the side of the mountain.

"All of the new acreage to be deeded to the Forest Service lies
(Turn to page 56)

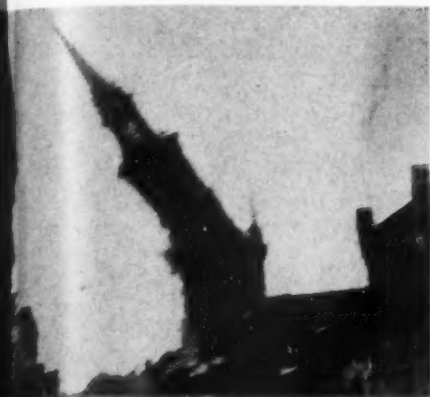
Statue of Paul Revere guards this approach to Boston's famed Old North Church. This picture was taken before a hurricane damaged building

Boston Chamber of Commerce photo



AN OAK for the Steeple

A giant white oak that was a mere sapling when Paul Revere made his famous ride is making possible the restoration of Boston's historic Old North Church, damaged by a hurricane last August



Boston Chamber of Commerce photo

The steeple at the moment it was being toppled by hurricane on last August 31

A Giant white oak that was a mere sapling when Paul Revere made his famous ride to awaken the countryside against the British, last month was donated by a Newington, Connecticut, couple to repair the steeple of Boston's historic Old North Church, toppled by Hurricane Hazel.

When the job of restoring the steeple was started—where Paul Revere read his signal "one if by land and two if by sea"—the F. H. McGraw Company, engineers and constructors, of Hartford, announced it wanted white oak—the same kind of durable timber that was used in earlier days for Yankee shipbuilding

because of its strength, long life, and resistance to warping and decay.

The firm also announced it wanted a big oak—one that would trim to the odd specifications of the original beam in the steeple, 1 foot square by 47 feet long. And since these big oaks are a vanishing species and difficult to find, the firm announced that once the right tree was found it would handle the construction work without fee as a public service. About the same time, the Homelite Corporation, of Port Chester, New York,—aware that forestry knowhow and equipment would be necessary for the task—offered its services on the project.

While these things were being discussed in New England, a Newington, Connecticut, couple—Mr. and Mrs. Charles Sherwood—came forward and offered their famous Newington oak for the job. The families of both Sherwoods came to this country before the revolution and American history is dear to their hearts. Both were agreed that the restoration of the famous Boston landmark would make a fitting climax for their greatly prized oak.

Charles Strickland, a Boston architect, and Sinclair Adams, engineer in charge of the restoration of this important symbol of American Independence, were among the experts who gathered at Newington to check the tree's suitability. All pronounced the oak a perfect selection.

Both Mr. and Mrs. Sherwood expressed gratification that their beloved tree had been chosen for such an enduring purpose. Mrs. Sherwood, long active in the local D.A.R., only requested that she be provided with enough wood to make a gavel for her chapter.

The felling ceremony on Washington's birthday was attended by a throng of people, consisting of history-minded citizens. Using a 30-pound Homelite Chain Saw, Consultant Walter Gorski, felled the tree in less than five minutes. Prior to its cutting the tree's age had been estimated at 350 years. Final proof of its destiny came when the total number of rings was announced as 215, meaning it started growing in 1740, when the original North Church steeple was finished.

The Newington oak is being taken to Boston where reconstruction of the steeple will start very soon. The McGraw engineers hope to have the project completed by the hurricane anniversary—August 31. All down the line, the cost of reconstruction is being provided for by American generosity. The fund of restoration dollars is now almost complete and has come from all over the country from modern-day patriots who were aroused by a threat to one of the most potent symbols of our national heritage.

And once again it is wood—oak wood—that is insuring the permanence of a great American landmark.

Just before felling of the giant. Waiting, l. to r., are Architect George Strickland, Mr. and Mrs. Charles Sherwood, donors of tree, and Homelite's Walter Gorski



Cutting the perfect specimen. Few trees would have filled the exacting requirements of the restoration

Homelite Corporation photos



WHEN The American Forestry Association adopted its first Program for American Forestry almost a decade ago there were many leaders in the whole field of renewable natural resources who were making notable contributions to this effort. These men and women — they included scientists, public servants, educators, foresters, journalists — were the pacesetters in this program of accomplishment. They were the people who moved out in front by virtue of that indescribable spirit—a form of selflessness in service—that stamps the leader in any form of endeavor.

That these champions of conservation deserved to be recognized for their signal achievements was readily recognized by The American Forestry Association. Accordingly, eight years ago, the association established its own "Hall of Fame" for resources leaders in the form of its annual Conservation Awards program for distinguished service. These awards, AFA decided, should be presented annually to those individuals who have rendered outstanding service beyond the call of duty in conserving and managing our renewable resources of forests, soil, water and wildlife. Five awards are made annually in five categories. These are: 1) Public Information; 2) Business and Industry; 3) Public Servants; 4) Education; 5) General Service.

So successful were these initial efforts to acquaint the public with sterling contributions to sound resources development that the Sears Roebuck Foundation joined the AFA in its program. Consequently, the project has continued to expand with every passing year. Today the awards have come to be regarded as an honor without parallel to those who work in conservation.

Last year the Awards Committee, headed by Chairman Robert N. Hos-

kins, screened 57 topflight nominations representing the widest bracket of resources activity in the history of the program. The nominations included those of foresters, city planners, business leaders, scientists, biologists, research specialists, writers and people in many other lines. In some cases, as many as 60 and 70 endorsing letters accompanied individual nominations. The five awards made at Portland, Oregon, last September 6 went to Frederick Paul Keen, Forest Service research specialist, of California; Dr. Olaus J. Murie, biologist, of Wyoming; Reuben Buck Robertson, paper company board chairman, of North

Carolina; Palmer Hoyt, newspaper publisher, of Colorado; and Dr. Samuel T. Dana, forester and educator, of Michigan.

This year's Distinguished Service Awards, for which nominations are now being received, will be made October 5 in connection with the All-South Annual Meeting of The American Forestry Association October 3-6 at Jacksonville, Florida. With the governors of many southern states scheduled to attend, this promises to be one of the most significant resources meetings in the history of the South. President Eisenhower has been invited to address the conclave. Senator Richard B. Russell, of Georgia, has been invited to make the keynote address on the conference theme, "Southern Forestry—An Industrial Revolution with Roots." General Chairman of the affair will be X. L. Pellicer, president, St. Augustine National Bank, of Florida. Recipients of the 1955 Distinguished Service Awards will be honored at the Annual Banquet of this annual meeting.

Last month The American Forestry Association began accepting nominations for the 1955 Awards. Because a nominations deadline of June 15 has been established the Awards Committee is urging that

FOR DISTINGUISHED SERVICE

Nominations are now being accepted for The American

Forestry Association's coveted Distinguished Service

Awards for outstanding contributions to conservation.

Presentations will be made at the Jacksonville meeting



Discussing Committee plans are, left to right, Lowell Besley, Watkins M. Abbitt, Dr. M. D. Mobley, Robert N. Hoskins, Bryce C. Browning, Arthur R. Spillers, and Louis H. Wilson, at recent meeting in Washington

AFA members and others nominate their candidates at the earliest possible date. Chairman Hoskins, industrial forester for the Seaboard Air Line Railroad, emphasized that eligibility for nominations is not limited to persons actually working in the field of renewable natural resources. He explained that the awards are intended to recognize and reward individuals whose contributions to conservation have been beyond the demands of their regular means of livelihood, adding that in previous years there has been some confusion as to who could be nominated and how awards winners were chosen.

Chairman Hoskins further explained that this year five winners will be selected from as many categories and that for judging purposes nominations will be categorized on the basis of employment rather than on the phase of conservation in which they have been active. The categories are public servants, business and industry, education, public information and a fifth grouping which includes persons not definitely embraced by any of the other classifications. This means, Hoskins said, that even though a nominee, a teacher for instance, may have made an outstanding contribution in the

field of public information the Awards Committee would classify him in the "education" category because that is his primary employment field. Likewise, he elaborated, an industrialist or a businessman could conceivably be nominated for activities in education but for judging purposes both would be classified as "business and industry." Hoskins also stressed the importance of including all pertinent information on the nominations blank and added that many nominations, in recent years, have been bolstered by accompanying letters of endorsement from as many as 70 different people.

Awards Committee members who will work with Mr. Hoskins in screening this year's candidates will be: Congressman Watkins M. Abbitt, of Richmond, Virginia; Bryce C. Browning, secretary-treasurer, Muskingum Watershed Conservancy District, New Philadelphia, Ohio; Dr. M. D. Mobley, executive secretary, American Vocational Association, Inc., Washington, D. C.; Arthur R. Spillers, chief, Division of Cooperative Forest Management, U. S. Forest Service, Washington, D. C.; and Louis H. Wilson, director of Information, American Plant Food Council, Washington, D. C.

Many fine leaders have been hon-

ored by The American Forestry Association for their achievements since the inauguration of AFA's first Program for American Forestry of a decade ago, Mr. Hoskins stressed. With a new Program for Forestry and related resources approved by the association only last year, many new leaders are appearing on the scene today—people who are working to achieve the three big goals of this program which are: 1) To meet the essentials of forest protection; 2) To improve the national timber crop in volume and quality to a degree sufficient to wipe out all deficits and build up a reserve; 3) To obtain the maximum of economic and social services from our forests by realistic application of the principle of multiple use in their management.

"The whole nation is being invited and urged to take part in the activation of this program pointing toward resources abundance," Mr. Hoskins said. "As always, however, there are and will be the few who will stand out above all others for their unselfish dedication to a great cause. It is the membership in this select group—the few who contribute so much to so many—that AFA seeks to honor with its Awards Program," he said.

Rio de Janeiro, Brazil, one of world's great harbors

Brazilian Government Trade Bureau photo



FREER TRADE - Key to International P

By J. D. ZELLERBACH

IN 35 years our industry's output has increased some 350 per cent, and is now about half the world's production of paper and board. We have become the fifth-largest industry, and the third fastest-growing industry in the American economy. Today the American paper and pulp industry is more soundly based and is more vigorous and versatile than ever before in its history.

Our remarkable growth has taken place while American tariff duties on imported paper and paper products have declined substantially. From their peak in the early 1930's, these duties have dropped by two-thirds to their present average of approximately nine per cent.

Yet, there has long been a strong protectionist attitude within the American Paper and Pulp Association. The voice of our industry has been raised virtually against every tariff reduction. Indeed, it has sometimes requested tariff increases. This has been the traditional public stand of our industry, even though we have kept on growing and prospering while the tariff duties declined.

Recently, there have been promising signs of change in our industry's attitude toward tariffs and world trade. Our general support of the Randall Commission report heralds a growing awareness that freer world trade, instead of protectionism, serves our best interests.

I want to do my part today in further encouraging the support of freer world trade within our Association. As a former protectionist,

I want to explain why I have become convinced that the United States *urgently needs to liberalize its foreign trade policy*. I am strongly supporting President Eisenhower's recommendations, such as the Trade Agreements Extension Act now before the Congress, which grew out of the Randall Commission report. It seems to me that there are two principal reasons why those of us in the American paper and pulp industry should support—rather than oppose or remain indifferent to—the President's recom-

mendations. First, I believe that as American citizens we have a *foreign policy stake* in freer world trade. Second, I believe that as industrialists we have a *commercial stake* in freer world trade.

Our Foreign Policy Stake in Freer World Trade

All of us here have a vital foreign policy stake in freer world trade. We cannot hope to survive as free men—much less operate prosperous businesses—unless the communist drive for world domination is

Nicaragua—loading mahogany logs for shipment to United States to be used in the construction of naval vessels

Pan American Union photo



Prosperity?

checked. We cannot check communist imperialism without strong allies. And we cannot have strong allies over the long haul unless the free world is liberated from crippling and divisive trade restrictions. Thus, freer world trade would strengthen and cement the free world alliance which protects our liberties as individuals and businessmen here at home.

Our foreign policy is directed at strengthening and broadening the free world alliance. We have already forged an interlocking network of mutual defense treaties with more than 40 nations. We are seeking to put muscle behind those treaty arrangements by helping build up the political and economic strength of our allies. We realize that our allies must have healthy economies to be able to resist internal communist subversion, and to build military defenses against external communist aggression. Thus, the economic development of the free world has become a vital task of our foreign policy effort to check communism.

But such economic development is presently fettered by a jungle of trade restrictions—tariff barriers, exchange controls, import quotas, and bureaucratic red tape. On all sides, such trade restrictions are stifling the development of the full economic potential of the free world. The communist world, on the other hand, is driving hard to mobilize all its resources and the tremendous Soviet industrial growth sharply underscores the

Paper company executive sees lower tariffs as the answer to both industry and world-wide problems. Delivered during Paper Week, his talk is receiving wide comment



Mr. Zellerbach receiving the "Star of Italian Solidarity" award from Italian plenipotentiary minister in June, 1952

need for making full use of the free world's resources.

The responsibility for leadership in liberating the free world's great economic potential rests with the United States. We must lead because we alone have the political

and economic power to set the course—and because our present trade restrictions are hindering the economic development of our allies. Our tariff barriers are preventing our allies from fully utilizing their economic resources by denying them a fair chance to produce and sell in the world's largest market—the United States. Our import quotas have much the same effect, especially in the agricultural field. The Buy American Act seals off more of our market by prohibiting the United States government—the free world's largest purchaser—from buying non-military goods from abroad unless they are substantially cheaper than American goods. And our cumbersome customs procedures constitute a further deterrent to imports.

A substantial part of our trade restrictions are unjustified and economically wasteful. Worse, they undercut our foreign policy. On the

SOME VIEWS OF THE OPPOSITION

THE continuing progress of resources management programs in the United States most certainly has a big stake in (1) a healthy and expanding industry, and (2) peace in the world. This is what Mr. Zellerbach, the president of the Crown Zellerbach Company, is talking about on these pages. At the same time, readers should know that Mr. Zellerbach's views as presented at the recent annual convention of the American Paper and Pulp Association definitely do not reflect a unanimity of opinion on the subject discussed by Mr. Zellerbach. Probably no address by a pulp and paper leader in years has aroused the flurry of comment—much of it dissenting comment—as that delivered by the C-Z president. In an effort to at least summarize the views of some of those businessmen opposed to Mr. Zellerbach's way of thinking AMERICAN FORESTS here presents some of the salient points on which they and Mr. Zellerbach differ.

The proven benefits of a protective tariff policy. Protective tariff advocates point out that freer trade proponents evade the fact that the United States would not have the money to do all the things it is now doing for foreign countries if it had not adopted a pro-

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one hand, we urge our allies—with words and money—to develop greater economic strength so they can stabilize their governments against internal communist subversion, and so they can contribute more men and weapons to the common defense against external communist aggression. On the other hand, we maintain trade restrictions which handicap our allies in developing the very economic strength we are urging on them.

I have seen our trade restrictions undercut our foreign policy many times while representing the United States abroad. In Italy I had the task of stimulating production and foreign trade so that the Italians could earn their way in the world—so that they could keep a democratic government—so that they could contribute troops and weapons and bases to the North Atlantic Treaty Organization. Then I have seen us raise tariffs to prevent the Italians from selling us some of the

There are many other illustrations of the urgent need for squaring our trade policy with our foreign policy.

We have been striving to build up Japan as a bastion of United States and free world defense in Asia. But the Japanese still face a desperate economic situation. Japan must sustain 88 million people in an area smaller than California, with few natural resources and only 16 per cent of its land arable. As an industrial and island economy, Japan must import raw materials and export the resultant manufactured goods. In short, Japan—like Great Britain—must trade to live.

We want the Japanese to limit their trade with Communist China for strategic reasons. But to compensate for its former large trade with mainland China, Japan must find greater outlets in the free world. Still, we resist reducing our own trade barriers which hinder

—either by the sheer necessity of trading with the Chinese communists, or by growing economic distress leading to internal communist subversion. Should the communist world fall heir to Japan's great industrial capacity, vast labor force and potential military manpower—our own national security would be gravely jeopardized. By the same token, an economically healthy Japan could contribute significantly to strengthening our military and other defenses against the rampant spread of communism in Asia. Surely, our foreign policy stake in Japan is far more important than the relatively slight effect of increased Japanese imports on American business. Since we are prepared to fight for Formosa, I should think we could afford some tariff reductions to help keep Japan.

We have come to the crossroads—we must make a choice *now* whether we will lead the free world forward to widening markets and expanding production, or permit it to lapse into intensified economic nationalism and political division. The adoption of a clear-cut policy of tariff liberalization, as the President has proposed, would provide fresh impetus toward liberating the free world from crippling economic restrictions. It would be a powerful stimulant to other free nations to liberalize their own trade policies and move toward currency convertibility. On the other hand, our failure to assert such leadership would be interpreted by our allies as a retreat from our present foreign policy. As Secretary Dulles recently told the Congress, this "could set up a chain reaction which would gravely damage and disrupt the free world." It would tend to confirm the prediction of Soviet leaders that the free world will eventually tear itself apart by a naked struggle for markets and economic existence.

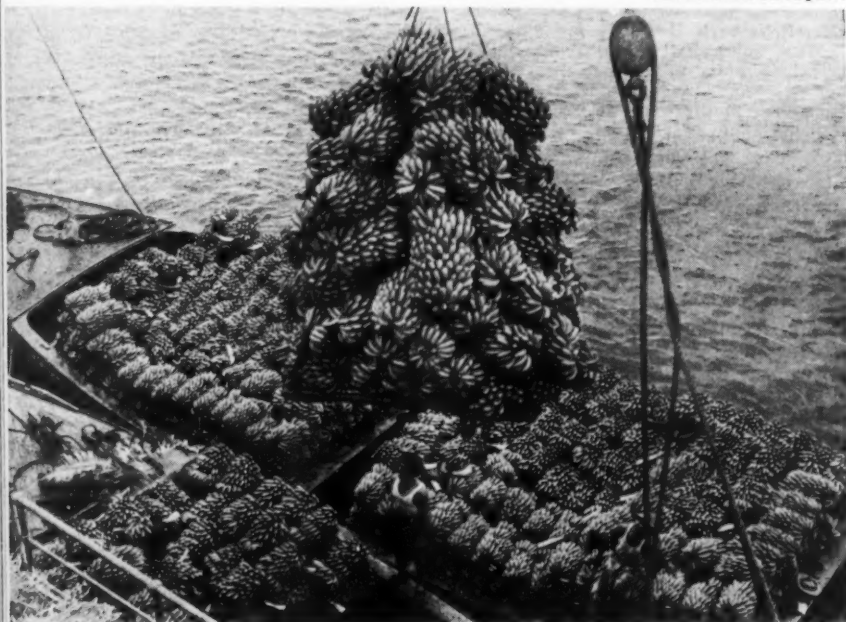
Each of us here has an important stake in promoting a reconciliation of our trade policy with our foreign policy. I do not see how we as citizens can shirk responsibility for carefully considering the total national interest involved in American trade policy. I do not see how we can expect to conduct business as usual for very long if we permit our protective alliances to weaken and pull apart for want of enlightened American leadership.

Our Commercial Stake in Freer World Trade

I think our foreign policy stake in freer world trade is so important

Bananas, one of Brazil's chief exports, being loaded at Santos

Pan American Union photo



very products we had urged them to make and export to us so they could earn dollars to buy needed American products from us. I have also seen us dump American products in traditional Italian markets. Such short-sighted actions were fully exploited by the communists who claimed that we were two-faced about freer trade and who asserted that we were making Italy an economic vassal of the United States.

Japan from competing in the world's greatest market. As a result, the Japanese are hemmed in, and—with a \$1 billion trade deficit and a per capita income of \$190—the Japanese are on the ragged edge of economic survival.

This, in my judgement, is a deadly serious issue. We must open our markets to Japan or risk the greatest industrial nation in Asia slipping into the communist orbit

that I would favor liberalizing our trade policy *even if it were to our economic disadvantage*. However, *this is not the case*. The fact is that freer world trade will strengthen our own economy by improving our overall efficiency and by raising our standard of living.

An increased and freer flow of trade among the free nations would promote the most economical use of our own resources—just as it would promote the most economical use of our allies' resources. It would enable the United States to concentrate on producing those things we make most efficiently—and to exchange a part of our efficient production for the things we need which other people make more efficiently than we can. It is just common sense for us to trade typewriters or refrigerators for coffee or bananas—rather than try to produce the latter ourselves at exorbitant costs. Moreover, importing goods at cheaper prices than they

would cost if produced at home makes the American consumer's dollar go farther and thus raises our standard of living.

Protective tariffs interfere with this natural economic adjustment. When the tariff protects a comparatively inefficient American producer who could not otherwise compete in the American market with a more efficient foreign producer, all of us—as industrialists and as consumers—are paying artificially high prices to subsidize the inefficient American producer. I see no good reason for this, except where it is really necessary to protect key national defense industries. Our economy would be considerably strengthened if we paid lower prices for the more efficiently produced foreign goods—and if the American labor and capital involved were devoted to producing goods which we, in turn, make more efficiently.

The drag of protective tariffs on our own economic development is

Thriving plantation of young rubber trees in Pinca Velasquez, Guatemala

Pan American Union photo



Pan American Union photo

Costa Rican coffee pickers pick beans which are destined for U. S. coffee cups

especially relevant to American exports. Our tariff barriers hinder our exports by preventing foreigners from earning sufficient dollars in the American market to pay for American goods they want to buy and we want to sell. We cannot continue to export some \$17 billion annually in commercial goods and services unless foreign customers are able to pay for them by increased exports to use. Of course, we could continue to subsidize our exports through government aid and loans to other countries—which amounted to some \$32 billion from 1946 through 1953. But neither the American taxpayers nor our allies abroad want to perpetuate such a dole system with its mutually harmful political and economic connotations.

Trade, not aid, is the best way to close the dollar gap—and it is essential to give American manufacturers and farmers a fair chance to compete in the world's markets. When we excluded Danish blue cheese, for example, the Danes—deprived of this means of earning dollars—stopped buying American coal and turned to Poland. By denying foreigners a fair chance to sell in our market, we inevitably

deny our manufacturers and farmers a fair chance to sell in foreign markets. Worse, we unwittingly force our allies into closer ties with the communist world.

I sometimes wonder if all of us realize how important American exports are to our economy—indeed, to our own industry. More than three million Americans, including some 10 per cent of our industry's employees, owe their jobs to American exports. Many sectors of American manufacturing and agriculture sell a large part of their output abroad. These people—manufacturers, farmers and wage-earners—are vitally important to all of us here. They are substantial customers of the paper industry. The level of their exports and the size of their paychecks make a considerable difference in the amount of paper products they buy from us.

I am suggesting that we look beyond the direct exports of our own industry to appreciate the full sig-

nificance of our commercial stake in world trade. Last year the *direct* exports of our industry were well in excess of \$200 million—a not inconsiderable sum in itself. But our *indirect* exports—occurring through our industry's sales to American producers who, in turn, export—are also significant.

Let me give you a few examples of the importance of our *indirect* exports—based on a Department of Commerce study.

This study shows that in 1947 each million dollars of motor vehicle deliveries required the produc-

tion of \$3,600 in our pulp mills—\$8,500 in our paper and board mills—and \$10,100 in our converted products plants. On this basis, the 1953 exports of \$1.4 billion in motor vehicles required production in our pulp mills of \$5 million—in our paper and board mills of \$12 million—and by our converted products manufacturers of \$14 million. If motor vehicle exports were to fall by roughly one-half to their 1950 levels, the required production in our pulp mills would also fall by some \$2.5 million—in our paper and board mills by more than \$6 million—and in our converted products plants by \$7 million.

The Department of Commerce study also indicates that electrical equipment and industrial machinery exports accounted for a substantial portion of our industry's production. These exports, together with motor vehicle exports, made up one-quarter of total American merchandise exports in 1953. Any

can exports mean substantial sales and profits and jobs to our industry. High levels of American exports require increased imports so that foreigners can earn dollars to buy our exports. Increased imports require liberalization of present American trade restrictions. Thus, freer world trade has become essential to the preservation and growth of our own domestic markets.

It seems to me that the threat of foreign competition to our industry has been greatly exaggerated. Let's look at the record again. Since the early 1930's our duties on paper and board imports have been reduced by two-thirds. In the process, dutiable imports have increased from about *one-half of one per cent* to *slightly less than one per cent* of comparable domestic production. I should think we would have considerable difficulty convincing anyone that our industry has suffered from tariff reductions on dutiable imports.

Moreover, I do not see how our industry could suffer under the further tariff reductions recommended by President Eisenhower. The present duties on an estimated majority of dutiable paper imports are already at the minimum rates which would be allowable under the pending legislation. True, duties on other items could be slightly reduced—but such imports represent only a negligible proportion of domestic output. Indeed, I doubt that even the complete removal of all tariff on paper and paper products would have very much effect on domestic paper production.

The fact is that our industry, with only a few minor exceptions, has become so strongly competitive that it is highly impervious to any foreseeable foreign competition.

I think we should recognize that some increase in foreign competition might well have desirable results. In general, foreign competition stimulates us to great efficiency, higher quality and more diversity. A good example of this is what happened in the newsprint field, which usually is cited to show the injury caused by tariff reduction. I suggest that there are three other conclusions that can be drawn from the newsprint experience.

The first conclusion is that competitive adjustments from foreign competition are basically no different than competitive adjustments from domestic competition. I dare-

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Mahogany logs being floated down the Escondido River in Nicaragua. Many choice logs, like those shown at right, are imported by U. S.



Let me give you a few examples of the importance of our *indirect* exports—based on a Department of Commerce study.

This study shows that in 1947 each million dollars of motor vehicle deliveries required the produc-

significant decline in such exports would seriously affect our sales receipts. If, for example, American exports were to drop to 1950 levels, our own exports sales would decline by one-half to approximately \$100 million. Our indirect exports would also decline by an estimated \$32 million. This total decline of \$132 million would be at least *four times* the value of dutiable imports of paper and paper products.

I think these examples pose for all of us a very real issue regarding the self-interest of our industry in world trade. High levels of Ameri-



Miss Isabelle F. Story

Editor-in-chief and assistant information officer
of the National Park Service retires after nearly
four decades of publicizing our outdoor heritage

ISABELLE'S STORY

By MARIAN E. FADELEY

A PUBLIC servant who has spent nearly 40 years making it possible for other people to enjoy their leisure time, at long last is getting some of her own.

This lady who has spent most of her life publicizing the conservation and improvement of our country's scenic and recreation spots and scientific and historic heritage is Miss Isabelle F. Story, recently retired editor-in-chief and assistant information officer of the National Park Service.

But retirement to Miss Story is a relative term, and while she has "officially" laid down her blue pencil, she will continue to direct her efforts toward spreading the gospel of NPS, as her vocation had become her avocation as well during her years with the Park Service.

Joining the Park Service almost immediately after its creation in 1916, Miss Story rose to become the first woman information officer of a Department of the Interior bureau. Upon her retirement on January 31, Miss Story thought she would finally be able to enjoy the sheer luxury of sleeping until noon, but only a week elapsed when NPS recalled her as a special consultant for a committee working on policies and development.

Looking back over her years of service with NPS, Miss Story recalled many unusual incidents during an interview for AMERICAN FORESTS last month. Flying in a plane

that was "off limits" to women, riding across the Continental Divide on horseback, although she is no horsewoman, and being strapped to skis and towed down a mountain, were all part of the day's work according to Miss Story—a lady who is bored by routine.

"The primary purpose of the National Park Service," said Miss Story, "is preservation rather than restoration." In disseminating this preservation idea throughout the country Miss Story said, "I've tried to follow a middle-of-the-road conservation policy, that is bridging the gap between the so-called long haired conservationists and those who would destroy our scenic beauty solely for financial gain." So effective have been her efforts in this endeavor that she has received national as well as international acclaim.

Back in 1931, Miss Story was asked to prepare a booklet on our national reserves for presentation at the Colonial Over-Seas International Exposition in Paris. She was delighted to undertake this assignment, but discovered that no departmental funds were available for such a project. Not to be deterred by this seemingly unsurmountable obstacle, Miss Story set out to secure the necessary funds from other sources. She successfully persuaded the western railroad people to underwrite the project which included translation, publication, and

distribution of the booklet. The French Government was so impressed with the result of her work, "Les Reserves Nationaux des Etats Unis," that they presented her with a medal.

Another signal honor was paid Miss Story in the mid-1930's when she was asked by the director of station WNYC, New York, to prepare a series of scripts for 13 broadcasts. These programs proved so successful that they were presented on a nation-wide network and extended in number to 39. Among the different series she presented were "America's Hours of Destiny," "Arts and Artists" and "Celebrated Conservationists." The series were used by many schools, colleges and universities and drama groups throughout the country. In fact, the NPS is still receiving requests for the scripts.

Miss Story worked diligently in preparing the programs which almost ran the gamut in variety of presentation, including narratives, dramatizations, and interviews. She succeeded in persuading many high government officials as well as Mrs. Franklin D. Roosevelt to appear on these programs.

As a result of her attendance at press conferences held by Mrs. Roosevelt, and other gatherings where the first lady appeared, Miss Story decided to write a newspaper

(Turn to page 51)



Many a trout has been taken from this stream at High Bridge, N. J.

WHETHER you're an "old salt"—meaning a salt water fisherman— or a "fresh angler"—one who prefers the inland lakes and streams, you'll find one of the best spots in the nation in New Jersey, a true sportsmen's paradise!

New Jersey has miles of fine coastal and off-shore ocean water where there are no barriers such as licenses and limits. And in the green-forested slopes of the Kittatinny, the Ramapos, the Watchungs and the gently rolling countryside are more than 800 blue, spring-fed lakes, not to mention more than 1400 miles of streams!

Perhaps New Jersey's greatest claim to fame for the angler is this variety—not only in choice of water, but in choice of types you can catch.

There are few salt or fresh water fish which do not inhabit the waters of this eastern state.

As they say, the best kind of fishin' is the kind you happen to be doin' at the moment.

Just for the sake of argument,

OLD SALT OR FRESH ANGLER?

The salt water fishing at Asbury Park is among best in the East



By **LESLIE G. KENNON**

Whether you prefer salt water fishing or the inland lakes and streams, you'll find that New Jersey is one of the best spots in the nation—a true paradise for anyone who loves to fish

let's say you're the "old salt" type.

Giant marlin, swordfish and tuna have actually been taken within sight of shore! And New Jersey's charter and party boats leave daily during the summer from half a hundred or more state docks along a 125-mile coastline stretching from Sandy Hook to Cape May Point.

Most of these "party boats"—not to be confused with "party" as used in the nightlife jargon—accommodate 25-30 persons on a first-come basis, so the cost per man is nominal. The boats go offshore for bottom fishing for types like croaker, flounder, kingfish, mackerel, porgy, seabass, tautog or weakfish.

Charter boats are the real babies. They are seagoing cruisers and are more in the luxury class, taking parties of four to six persons—reservations in advance—and, needless to say, cost isn't low.

But anyhow these craft take off for the deep waters for the giant bluefin tuna, marlin and swordfish. Fish are lured by trolling a baited hook in the ship's wake and fishing, of course, is done from specially built chairs from the boat's stern. Those fish you're used to catching in the favorite hole back home are used for bait here.

Inlets, bays, lagoons, coves and inland waterways come in the realm of the angler here. A lot of these places can be easily reached by rowboats, available almost anywhere. Catches of croaker, flounder, striped bass and weakfish are common.

Now, get a load of this: New Jersey's State Hatchery at Hackettstown distributes nearly 400,000 or more legal-size brook, brown or rainbow trout every year! And most of the lakes and ponds are stocked with largemouth bass, bluegills, perch, calico bass, catfish, pickerel and white perch. Normally, more than 650,000 pond fish are distributed every year.

So, you see what we mean when we say you get variety as your spice in New Jersey angling.

The lakes themselves are well scattered from Sussex County to Cape May. The lakes aren't particularly large, but they're excellent angling!

The trout season extends from about April 15 to September 30; bass from June 15 to November 30; and the season for pike, pickerel and pike-perch from May 20 to November 30. Striped bass can be



taken in fresh waters from April 1 to November 30. Licenses cost \$5.50 for non-residents.

And, of course, as we said, for surf fishing, around the inlets, deep-sea bottom fishing, big game fishing and offshore angling for bonito and bluefish, there are no licenses to buy!

If you'd like to know peak months for the sea-fishing, here are some of them: June, Croaker, Seabass, and

Crab; July, Bluefish, Bonito, Marlin, Tuna, Kingfish, Porgy, Seabass, Weakfish, Crab, and Striped Bass; August, Albacore, Bluefish, Dolphin, Porgy, Flounder; September, Flounder, Kingfish and Snapper; and October, Mackerel, Tautog, Striped Bass and Tautog in surf.

The cost?

For party boats, it'll cost between \$4 and \$5 per person for a full day of fishing, including, usually, the bait. Skiffs, inboards and outboards can be rented for \$5 to \$10 a day.

Charges for charter boats run from \$65 to \$100 per day with tackle and bait usually furnished. Rowboats for inlets, bays, coves and inland waterways can be rented almost anywhere for \$2 to \$3.

Accommodations are not high, although not as low as places like the Missouri Ozarks, Kentucky, Arkansas, etc. Generally, you can figure on \$5 to \$10 a day per person or more.

Of course, New Jersey's not limited to fishing, so the rest of the family can have its fun, too. Plenty of good bathing beaches, sailing, golfing, hunting, horse racing, summer theaters, nightlife in the larger cities, 10 state forests and 21 state parks, hundreds of historical shrines, the "Miss America" contest annually at Atlantic City (rumored to be of "some interest" even to fishermen), and a host of special events are ready and waiting for the tourist.

But primarily, New Jersey's a land for the fisherman—be he old salt or fresh angler!

Almost any fine day in Monmouth County you'll find local residents and visitors alike out to try their luck with a pole





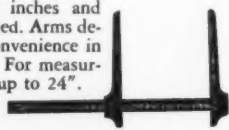
FORESTRY INSTRUMENTS

Conforming fully to the high quality standards established by K&E products, these forestry instruments are light in weight, compact, portable, handy—and extremely rugged. For further information about them ask any K&E Distributor or Branch, or write Keuffel & Esser Co., Hoboken, New Jersey.



Swedish Increment Borers
Best instrument yet devised to determine the characteristics of standing timber. Made of the finest Swedish steel. Demountable for easy carrying, bits come in a variety of sizes for bores of many different lengths and diameters.

Tree Caliper
Hardwood, with the eye of the sliding arm brass lined all around. Beam graduated to 10ths inches and plainly numbered. Arms detachable for convenience in transportation. For measuring diameters up to 24".



Swedish Increment Hammer

For quick and easy examination of the bark and the last few year rings of a tree. When swung as a hammer, the hole pipe enters the bark at a right angle. When hammer is removed from the tree, a bark and wood sample is ejected by a plunger.



Plunger is graduated in inches and tenths of an inch.



Timber Scribe
Wooden handle, 7 in.

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The Great Conserver

(From page 21)

New England in her best tradition—teacher, scholar, varsity quarterback, class deacon. He had been associated intimately with Gifford Pinchot—on the Yale campus, in studying forestry in Germany, in the first technical plans for woodland management in the United States, and as Assistant Chief of the Bureau of Forestry in the early formative days. No one had worked so closely with Pinchot on the many problems which confronted the engineers of conservation. They made a David and Jonathan team. And when they were stuck on the training of men for the new undertaking, Harry Graves came up the solution. He would run a School of Forestry at Yale if the wealthy Pinchot family would endow it. Agreed! Harry took the school and Gifford carried on with the public service.

Graves was impelled to come to Washington in 1910 by another fine New England tradition. Just the old-fashioned sense of duty. He did not want to leave his beloved school. He hoped it would take only a year's leave of absence. He felt that he owed it to forestry, to his pal Gifford, and to the young profession, to straighten out the confused situation at Washington and protect the position of Chief Forester from outstretched political hands. The modus operandi was simple enough. Anson Stokes, Secretary of Yale University, made the recommendation to the Yale man in the White House. Half a dozen other Elis supported it. The "old school tie" did the trick. *The New Forester and the Secretary*

Graves found the Forest Service badly demoralized. Three other top men had gone out with the impetuous G. P. There was much jubilation in the camp of personal and political enemies of the national forests. Some of the timber speculators and livestock and mining men hoped to smash the whole structure. Secretary of Agriculture James Wilson and his immediate staff distrusted the Service and "Tama Jim" had wanted to pick his own Chief Forester from the West. Graves discovered that the Secretary was planning field trips of his own on the national forests, to see what was going on. Obviously the old Iowa farmer took a dim view of the whole business.

We were to learn quickly that one thing of which Harry Graves had no lack was "guts." He went directly to Secretary Wilson; put his own position before him squarely. He told the Secretary that if he would give his new forester his personal confidence, he would never find anyone more loyal. It was straight, man-to-man talk; and it cleared up the situation. The two men were soon working together, hand in glove.

James Wilson had been a member of the Cabinet for sixteen years. He was a practiced hand in dealing with the farmers and members of Congress. The Secretary and his forester traveled about a good bit together. Once they met a delegation of western stockmen who protested against the "tenderfeet" who were being sent out by the Forest Service to run their ranges. The old farmer took the words right away from them. "Don't you run down these boys," he said. "Give them a chance. They've had the right start. In a few years they'll be marrying your daughters and become the leading citizens of your towns." It is surprising how often this is exactly what happened.

Out in the Black Hills of South Dakota, they attended a Grange meeting. The Secretary stood in the middle of a big room and tried to talk in all directions at once. Soon a friendly cat appeared and rubbed sociably against the Cabinet minister's legs. But a misstep from the secretarial shoe brought a loud and angry feline squawk. "Easy now, kitty," said the old gentleman, "easy now. Remember this is not a political meeting."

The Chief Forester in the Olympics

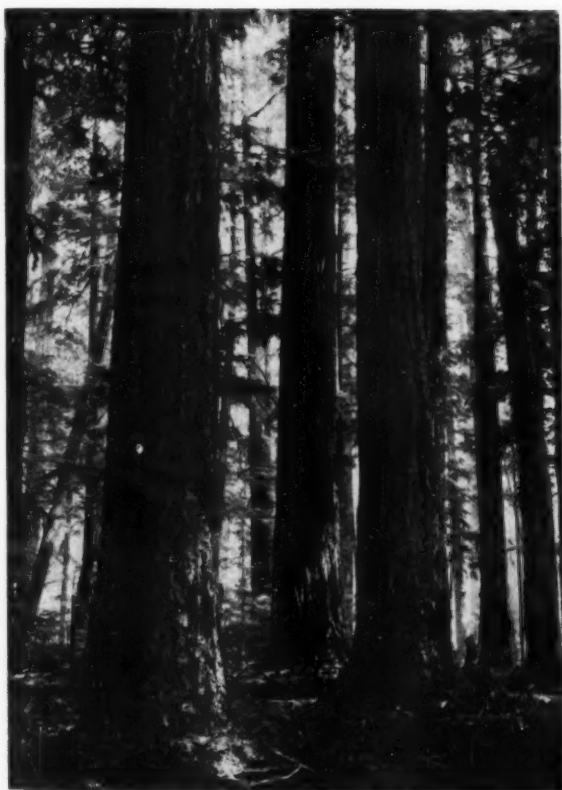
The Olympic Mountains provided the setting for memorable instances of how tough our New England scholar could become when he made up his mind to get down to cases. The higher ranges had been set aside by Theodore Roosevelt as a national monument, to protect both their scenic grandeur and the Olympic elk herds. Mining groups in Seattle had raised loud protests and published much in the newspapers against this locking up of mineral wealth from the prospector and

(Turn to page 42)

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 Before the pageantry of pioneer days
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 Whose toil and courage symbolize the past.
 That past is theirs—the future, ours, unfurled—
 Yes! Ours, the challenge of a strong new world!

—Elmer W. Shaw



The primeval forest where Poet Shaw's dark tribesmen may have danced before the "pageantry of pioneer days"

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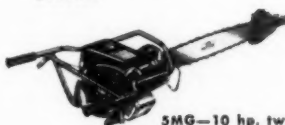
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Write for Literature



BRANCH PLANT AT NAHMA, MICHIGAN

The Great Conserver

(From page 40)

miner, especially the valuable deposits of manganese which were claimed to exist. The vociferous leader of the protesters advertised himself as an old Alaskan sourdough who had been stopped from developing a promising manganese mine by the Executive Order.

Harry Graves finally wrote the angry sourdough directly; asked him to meet the Forest Ranger and himself on Hood Canal; and guide them personally to the manganese ore bodies. So indeed he agreed, bringing a huge washboard packsack on his back. The trio set forth; but the miner "guide" got mixed up with elk trails, finally took sick and fell behind. The search for manganese proved a fiasco. The party got lost, spent a rough, stormy night in the mountains, and finally got into Hoquiam on the second day. The "little man from Washington" was carrying the heavy miner's pack; and the sourdough himself, as reported by a local paper, was limping in the rear, "puking along the trail."

The best part of the search for the "mine lost in the rain" was that it enabled the new Chief Forester to meet the people of Grays Harbor and other Olympic communities and tell them face to face what the Forest Service intended to do with the vast resources under its stewardship. It was a preview of what would become known a few years later as "multiple use." The most superb mountains and glaciers would be kept as nature made them, for scenery, recreation, and wildlife refuges. The vast national forest, surrounding the national monument, would be developed for its timber, minerals, and agricultural lands where homesteads could be located. The key to the whole was "access," well-planned trails, protection roads, and good highways up a few main valleys. He gave them a regional plan to work on.

Meantime, the ex-quarterback with the snapping black eyes went grimly about another little item of unfinished business. The Service had taken action to cancel two patently fraudulent homestead claims near the North Olympic center of Port Angeles. It planned to use the ground for an administrative headquarters. But the squatters and their friends raised the old hue and

cry of "settler oppression" by a "tyrannical Bureau." Petitions to the Secretary of Interior were circulated and signed by most of the leading citizens of town, including the Mayor. When the Chamber of Commerce invited Graves to talk about his plans for developing the Olympics, he calmly reviewed the homestead story, by chapter and verse, and asked bluntly if that was the kind of cooperation the Service could expect from the City of Port Angeles. He did not overlook that the host of the evening, the Mayor, was one of the petition signers; and implied that the Service might have to shift its northern headquarters to the rival town of Port Townsend.

The shock on the Chamber of Commerce was like dropping an A-bomb. Profuse apologies and protestations of future support followed. Here was a case where East met West in a fashion that West understood. The incidents on the Olympics were not of high import in the national scene; but they did reveal the fighting qualities of our new boss.

Political Poker

Harry Graves often said, "I am no good at politics." He had great natural dignity and a hard core of intellectual honesty. He was distressed and disgusted by the many petty pressures which he encountered in efforts to obtain legislation or current appropriations; and by the bargaining he was often forced into. Frederick H. Newell, head of the Reclamation Service, and other friends advised Graves to cultivate the poker and cocktail approach to "men on the hill"; but it was not in him to become a "hail-fellow-well-met" political pleader.

One year he made a determined effort to get the Senate to restore a cut made by the lower House in his pitiful appropriation of \$100,000 for all national forest roads. He went to Senator Warren of Wyoming. "Oh, yes!" said Warren, "and how are you getting on with the Hoback Road?" The Hoback was the main route through Wyoming's Wind River Mountains. Graves went to Senator Chamberlain of Oregon. "Oh, yes," said Chamberlain, "and what can you

(Turn to page 44)

Model D widening, ditching and grading six miles of road up to Bill's Butte Fire Lookout Tower. Grader is owned jointly by Oregon Dept. of Forestry and Coos County Forest Protective Assn.

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The Great Conserver

(From page 42)

do for that group of homesteads I wrote you about?" A letter was then awaiting signature on the Chief Forester's desk, recommending cancellation of the whole group for fraud. Graves turned to go. "Wait a minute," said Chamberlain, "I'll call Guggenheim of Colorado about it." "My God," said the flustered Chief Forester, "don't call in any more senators." But that time he got his appropriation.

And then, we all observed, Harry Graves started some political poker of his own. To every audience he addressed throughout the West for a whole season, he stressed the critical need for *national forest roads*. "Petition your Congressmen," he urged, "to give us some real money for building roads." Soon many western members were writing the Chief Forester, to ask if he would support a much larger and continuing budget for highways. The Federal Road Act was passed in the following year; and its first year's allotment for national forest roads was \$1,000,000.

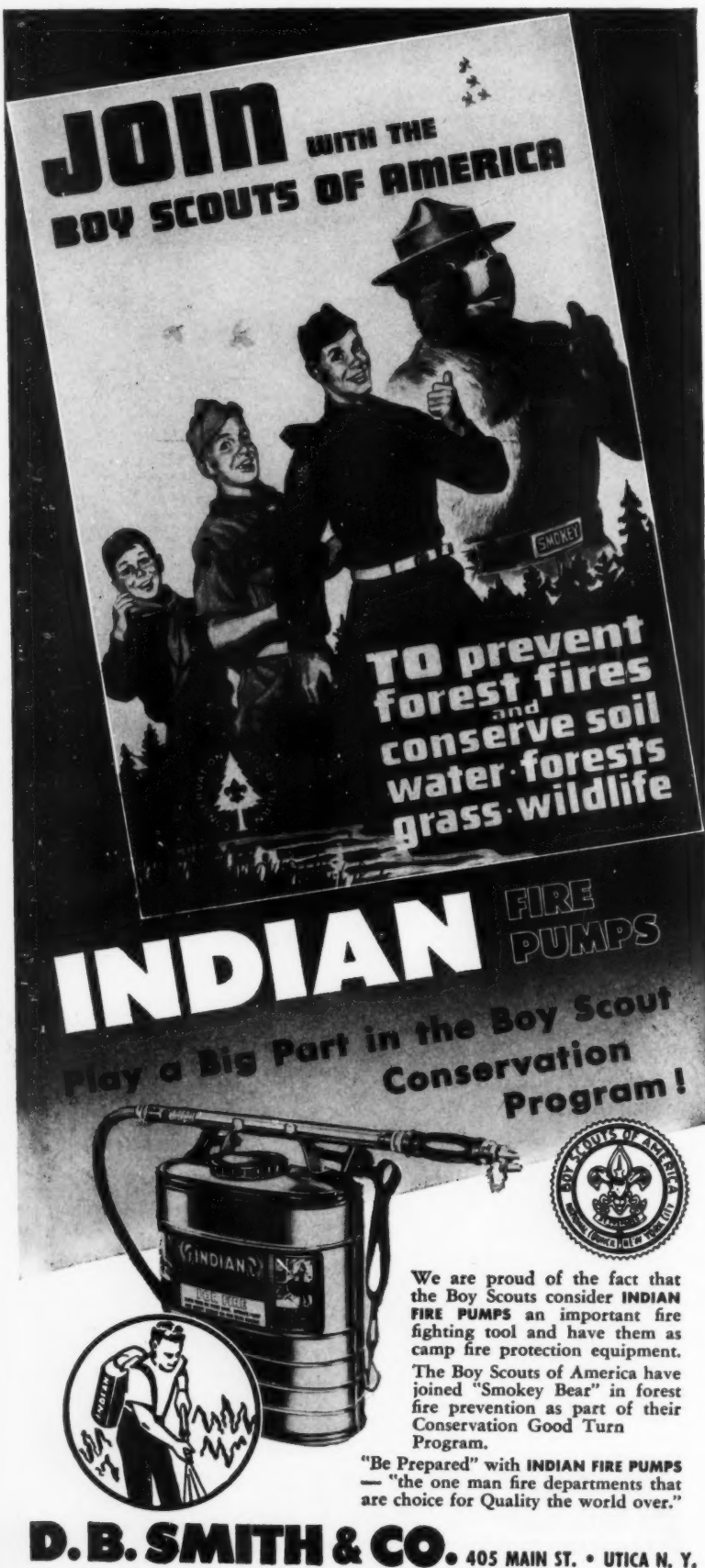
Jobs for Deserving Democrats

Against one of the political pressures, Harry Graves stood as unshakable as Plymouth Rock. He would make no appointments except by Civil Service procedure. To the dismay of Secretary Wilson, he stubbornly refused to allow a Negro protege of President Taft to be "provided for somewhere on educational activities."

This sort of thing took a semi-comic turn when William J. Bryan became Secretary of State under President Woodrow Wilson. Bryan was direct and brazen in placing "deserving democrats" around the federal services. He tried his best to put one in Harry Graves' own shoes and demanded a specific ruling from the Attorney General on the availability of the post for an unclassified, Presidential appointment. Bryan made such a personal fuss over his turn-down by the Attorney General that the affair got into the newspapers. The result was a round of editorials and letters to the President demanding that the politicians keep hands off the Forest Service.

Graves had the staunch support of the new Secretary of Agriculture, David Houston, in his intransigence

(Turn to page 46)



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\$220 from Vernal, Utah. Party limited to 28

SAWTOOTH WILDERNESS, IDAHO

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\$215 from Sun Valley, Idaho. Parties limited to 28

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AUGUST 12 TO AUGUST 22; AUGUST 28 TO SEPTEMBER 7
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\$220 from Santa Fe, New Mexico. Party limited to 28

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The spring saddle trips in the Great Smoky Mountains National Park, North Carolina, have been so successful that The Association has scheduled another this year for the dates May 25 to June 4. Headquarters for the party of 20 will be the Cataloochee Ranch, on the border of the Park. The itinerary calls for a three-day pack trip from a base camp, including a ride to the crest of Mt. Sterling. Seven nights will be spent at the ranch with rides to Sheepback Lookoff, Purchase Mountain, Paul's Gap, Balsam Mountain and other interesting points. Square dancing will be the feature on the last night.

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The Great Conserver

(From page 44)

against political appointments. He held the line during the first change in national political control for sixteen years; and buttressed the Forest Service against further attacks upon its cherished independence. We were almost prepared, indeed, for the raids of the Harding regime. *Fraudulent Homesteads and Mining Claims*

One of the continuing responsibilities of the Forest Service was the investigation of unperfected claims to public land within the national forests, as they came up for issuance of patent. The Interior Department jealously retained its control over all patents to public land. But under its rules, hearings were held on any protests or contests. So the Forest Service found itself in the thankless role of public prosecutor, against the patenting of many fraudulent entries. The withdrawal of any national forest caught a certain number of incomplete homestead entries, lieu-land filings, etc., that would be patented or rejected in due course. Often the publicity about new withdrawals started a fever of land speculation. Old squatter locations would be reinstated; "timber lookers" for lumber companies would organize new gangs of homesteaders to mark their corners in surveyed townships before a Presidential withdrawal could reach them. It was a tough, discouraging job to protect the public title to the lands we were trying to build into a system of national forests, against all the legal wiles and chicanery developed in the days of free timber.

National forest withdrawals did not exclude mineral entries. And the mining claim was stretched to cover a multitude of sins. About the time the Western Pacific Railroad was surveyed across the Northern Sierra, I saw local newspapers advertise the sale of blocks of mining claims that were "guaranteed to run 20 thousand feet of sugar pine timber to the acre." Mineral entries were plastered on hydroelectric power sites, town sites, water holes, or crucial road rights-of-way. Often they would not stand up under legal proceedings. But the watchdogs of public interest had to be eternally vigilant.

Service reports reveal that by

1913, 281 homestead entries had been cancelled on evidence of fraud obtained by its field examiners. Most of these were in heavily timbered country where the showing of "residence and cultivation" was farcical. The General Land Office had also thrown out 639 mineral entries. There was much opposition in the West and many political repercussions from this honest enforcement of the general land laws. There was still much of the "easy public land conscience" in the country, that forgave most anything to the hardy pioneer, carving out his home or making his "stake" in the wilderness.

Harry Graves was particularly concerned by the attitude of President Wilson's Secretary of the Interior. Franklin K. Lane was an honest and progressive Oregonian who had undertaken the duties of his position with great vigor. But many Departmental decisions on fraudulent claims within national forests still reflected the old leniency toward the "homesteader in the wilderness." Graves felt that the two Departments were working at cross purposes and determined to bring things to a showdown.

The summer of 1914 was spent largely by Graves on a personal study of homestead claims in the St. Joe and Coeur d'Alene National Forests of North Idaho. They lay in the heart of the heavy white pine timber belt, with extremely rugged, precipitous slopes. Week after week, the Chief Forester scrambled over these canyons, filling his notebooks with descriptions of individual claims and taking pictures. He found endless repetitions of the same story. A "home" of poles and cedar shakes, thrown up in an afternoon; "cultivation" of a few square rods by chopping out underbrush and scattering three or four handfuls of seed around; and "residence" during a few summer weeks only—often for a single year, almost never for more than two years. Many claims were on ground with 30 to 60 degree slopes. To get over one at all usually became a scramble on all fours. But every claim was studded thickly with pine timber—from 2½ to 5 million feet per entry. Most of them had a cash value of \$8,000 to

\$12,000 as soon as the entryman could deliver a U.S. patent. The Service compiled an historical record of 264 homesteads in the St. Joe National Forest which already had gone to patent—two hundred lumber companies within three years after the date of patent. Scarcely forty acres of bona fide cultivation could be found in the lot.

Armed with these facts and with a New England conscience steadily nearing the boiling point, Harry Graves wrote his personal report directly to Secretary Lane. The report was delivered by none other than Secretary of Agriculture Houston. This big, imperturbable man from New York was rather a strange fit in the Chair of Agriculture. He was neither farmer nor politician, but an economist of broad outlook and wide knowledge of national affairs. He was keenly interested in forestry and backed Graves to the hilt in his demand for enforcement of the public land laws.

The Graves report made Secretary Lane very angry. He was insulted to have such criticism of his Department come from the outside. But he also realized the political dynamite packed in these few pages; and sensed that the time had come for change. And the change came in Interior's handling of fraudulent claims. Some time later, Harry Graves pressed Secretary Houston for more details on the historic interview between Agriculture and Interior. "The discussion got pretty warm," said the big man. "Finally I shook my finger solemnly across the desk. 'Lane,' I said, 'if you don't reverse your policy on these claims, I shall Ballingerize you.'"

The Great Conserver

The 'emergency' which called Graves to Washington on a year's leave of absence turned into ten years of grueling work. It was his mission to *hold the line*; maintain the structure of national conservation as Roosevelt and Pinchot designed it—against the accumulation of partisan assaults and special interest pressures which were turned loose by the Ballinger row and the political swing to the right. It was a hard duty for Harry Graves. He did not love a fight. He lacked the magnetic personality, quick mind and dramatic flair of Gifford Pinchot. People did not naturally rally about him. Newcomers usually thought him cold and austere. He did not readily mix with men of

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different mold, or find middle ground for compromise. Graves habitually stuck to his guns and fought to a finish. He swallowed many embarrassments and lost many small battles. But he usually won his major campaigns by dogged persistence. He also won the respect of many of the men who manipulated the little political currents and combinations around Capitol Hill.

In course of time, Harry Graves rose in political stature. A fresh tide of public support flowed in behind the Forest Service and his leadership. The Weeks Law put him in charge of a dynamic political program, with some millions to spend in buying land and some hundreds of thousands for state aid in forest protection. The Forest Highway program gave him control of other millions, whose use lay close to the interests of western politics. And it had become clear that

Graves was running the show, Harry Graves and none other.

About 1915, it seemed evident that the major, threatening attack upon the national forests had about run out. The West seemed generally to accept the systems of range control, timber use, and agricultural land classification. Local administrations had improved; more experienced men were on the job; and the people of the West had become familiar with Forest Service methods. The extremely able fashion in which the Service dealt with the explosive question of grazing fees had also won many friends.

In his relations with the great legislative and executive bureaucracy at Washington, Harry Graves could concentrate on more constructive and interesting things. Marvelous opportunities for technological research had been opened up by the establishment of the National For-

est Products Laboratory in 1910. A new national hydroelectric power policy was in the making. The study and selection of national forests to protect the watersheds of navigable streams was in full swing. The whole conservation program was moving forward. And Graves would soon be called upon for distinguished public service in organizing the forest resources of the United States for world war.

My own admiration for Harry Graves always goes back with greatest warmth to the tough and troublous years when he held the thin line of national forestry by sheer personal courage. His greatest service was rendered in the very days when he would come back to the Atlantic Building, dead tired, throw his briefcase on the floor and mutter: "I'm no good at politics." I will always remember him as the "great conservator."

In Opposition to Freer Trade

(From page 33)

protective tariff policy in the building up of its industry organizations during the last quarter of the Nineteenth Century and the first quarter of the Twentieth Century. Those in favor of protective tariffs say that this matter of dealing with broad averages in tariffs is a dangerous thing, and that even if some branches of the pulp and paper industry could stand up under a reduction in tariffs there are other branches to whom any reduction in prices due to manipulation of tariffs would be disastrous. "Protectionists" also contend that while it is true the industry generally has opposed tariff reduction the reason has been that the industry has had a period of "indigestion" in switching from newsprint to other grades which it could make profitably after the enactment of the so-called Reciprocity Treaty. Many of those opposed to Mr. Zellerbach's trade philosophy feel that freer world trade would spell doom for certain branches of the industry, and particularly some individual mills, unless the United States government is in a financial position to buy all the excess production of foreign mills. This school of thinking further contends that the \$275 billion deficit hanging over the U. S. makes buying of such production impossible.

The inability of the United States to compete with extremely low wages paid by most foreign countries. Those favoring tariff protection feel that many other nations are not interested in raising their standard of living, only in maintaining full employment at wages which are from 25 to 40 percent lower than those paid in the United States. Opponents of freer trade also say that they are surprised at the endorsement given Mr. Zellerbach's program by labor leaders because labor would be the first to suffer from reduction of tariffs. "My guess is that if this thing (tariff reductions) is put into effect within five years union labor will be back with the Republican party where it belongs," is the way one prominent pulp and paper spokesman put it.

Free trade as a weapon against Communism. The segment of industry on record as opposed to freer trade is aware that Mr. Zellerbach's idea is to keep Japanese, etc. from teaming up with the Communists, but they remind him that less than a decade ago the Japanese tried to wipe the United States off the face of the earth with weapons made from materials gained from us through trade.

The danger of foreign imports glutting our domestic markets. "...

Mr. Zellerbach assumes that the foreign countries will not manufacture typewriters or refrigerators and things of that sort, but after you have equipped a foreign country with new machine tools there is nothing to prevent them from bringing into this country all sorts of appliances that would be in competition with an already over-produced market here," is an example that seems to be the consensus of freer trade opponents.

The difference between importing raw materials and manufactured goods. Many spokesmen in the industry have said that they have been willing to buy raw materials from other countries but when it comes to buying finished goods low foreign production costs make competition unfair.

Trade with Canada. "... Mr. Zellerbach talks about wrecking Canada's most important dollar-earning industry. But he knows very well that no such tariff could be imposed and he also neglects to state that U. S. capital is invested in Canada to such an extent that there would be a great howl about the imposition of any such duty. He also knows that we do not have the cheap power to produce the six million tons of newsprint which Canada has been importing here."

Freer Trade

(From page 36)

say that those American newsprint producers who had a competitive struggle because of more efficient Canadian producers would have had a similar struggle sooner or later with more efficient American competitors—such as those now producing newsprint in the southern states. This happens every day in our economy. It has happened and is still happening in domestic competitive adjustments in wrapping and other papers, which have tariff protection. And there is also an ebb and flow of competitive adjustments on duty-free items. American newsprint and wood pulp production has been expanding because new domestic production can meet foreign competition and still earn a profit. Such producers have made a deliberate and free choice to enter the market—without benefit of tariff—and this is the economic freedom we all advocate.

The second conclusion is that greater foreign competition in newsprint stimulated us to improve and diversify our products. In this sense, foreign competition serves the same purpose as domestic competition—both promote the most efficient use of our human and physical resources. The movement of labor, capital and management in a continuing endeavor to improve production and reduce costs, under the stimulus of competition, is the vital and dynamic element in the growth and efficiency of our free enterprise system. Our economy—and indeed, our own industry—has convincingly demonstrated its flexibility and adaptability in adjusting to competitive changes, including those occasioned by tariff reduction. Perhaps no industry in America has faced more intensive foreign competition than the paper industry faced in the newsprint situation. Yet we persevered—we maintained ourselves—we diversified—and we grew. We emerged from the adjustment period far stronger and more vigorous than before—to the benefit of our industry and of our whole economy.

The third conclusion is that an expanding economy is good for all of us—but a contracting economy is bad for all of us. The removal of the newsprint tariff before World War I did not immediately create competitive difficulties for domestic



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producers. In fact, our domestic newsprint production expanded significantly after World War I because of expanding markets. Our production of 1.7 million tons in 1926 was 29 per cent higher than in 1913 when the duty was removed. The real difficulties came not so much from foreign competition as from a subsequent depression and sharply contracting markets. Then we were all being hurt—and not only in newsprint. Kraft paper, despite tariff protection, sold at or below the price of newsprint.

I suppose that even now we could recapture a large share of the American newsprint market by reimposing a sufficiently high tariff. What would we accomplish? We would wreck Canada's largest dollar-earning industry. This, in turn, would force Canada, our largest export customer, to curtail its purchases of American goods. As a result, many American industries would be forced to cut back production—lay off employees, increase prices, etc. In the final analysis, our industry would suffer along with everyone else in a contracting economic situation, *because we sell paper to everybody.*

All this adds up to the fact that the future of our industry depends upon the expansion of the American economy. Freer world trade will promote the expansion of the American economy which, in turn, will promote the growth of our industry.

All this has been convincingly demonstrated since World War II. Between 1946 and 1953, our industry's production increased some 38 per cent—with good profits and with constantly increasing earnings by our employees. This unparalleled growth took place as tariffs have been reduced, as our total imports and exports have increased, and as the free world has operated at higher levels of economic activity.

It seems clear to me that it is in our interest—as an industry—to do our utmost to promote the expansion of the American economy within an expanding free world economy. Freer world trade can contribute to such expansion. Restricted world trade will certainly contribute to economic contraction. Freer world trade can contribute to the strengthening and solidarity of our free world alliances which shield all of us from war or creeping communist imperialism. Restricted world trade will certainly contribute to the weakening and disruption of our alliances and increase the danger of appeasement and war.



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Following is a paragraph suitable for incorporation in wills:

"I hereby give, devise and bequeath _____ to The American Forestry Association, Washington, D. C., a non-profit District of Columbia corporation, or its successor, or successors, for the purpose of promoting the corporate activities of said Association."

Isabelle's Story

(From page 37)

column entitled "Chatting with the First Lady." This column was published in southern newspapers for several years.

Other notable events in Miss Story's career with NPS include her excellent revision of Gen. Chittenden's classic "Yellowstone National Park" and her work with the Congressional Commission in charge of the Yorktown Sesquicentennial Celebration at which President Hoover appeared. She has also received acclaim as a free lance writer on national parks and conservation.

Miss Story has traveled extensively throughout our national parks and monuments. And as she prefers to travel off the beaten track she has had some rather harrowing experiences. On her first visit to Glacier National Park, Miss Story found the road had not yet been completed. Therefore, in order to continue her trip it was necessary to go the rest of the way on horseback. Although she claims not to be an accomplished horsewoman, but sits easily in the saddle, Miss Story crossed the Continental Divide three times on horseback.

Other experiences with horses have not been so pleasant for her. Once on a trip out West Miss Story was thrown by a horse and suffered a brain concussion. Not realizing that she had been seriously injured, and not wanting to miss any part of her trip, the next day she climbed back on a horse and rode down into the Grand Canyon. Afterwards, she received medical treatment.

On another trip to the Grand Canyon, this time making the trip over the Canyon and by airplane, one of the plane's engines stopped when they were only mid-way across. Fortunately, the plane was able to make it safely to the other side of the Canyon.

This episode brought to mind another plane ride which Miss Story recalled with considerable pleasure—the kind of pleasure women particularly enjoy when they have trespassed successfully into the world of "for men only," even though unwittingly. This resulted from a trip Miss Story was scheduled to make to Fort Jefferson in the Florida Keys. Because of a garbled telegram she missed the Coast Guard boat that was to take her to Fort Jefferson, and was later notified that a

Coast Guard plane would fly her to her destination. Several weeks later, after the trip had been completed, Miss Story discovered that women were not allowed on Coast Guard planes. Miss Story declared that if she had known such a regulation existed, she would not have embarrassed the Coast Guard by accepting

the invitation to fly.

Perhaps the most exciting, and also the most hazardous, experience Miss Story encountered, happened on a visit to Mount Rainier. When her group arrived they found the roads to Paradise Lodge had not been cleared. It was therefore necessary to climb up to the Lodge on



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skis. And Miss Story is no skier. After they arrived at the lodge, Miss Story participated in a casualty operation which consisted of her being strapped to skies and towed down the mountain. Her friends were more anxious for her safety than Miss Story herself. When the trip was finished Miss Story commented, "there was nothing I could have done about it if I had been afraid—I was strapped down so tightly. So I just relaxed and enjoyed the ride."

The most pleasant and inspiring event of all her travels, Miss Story recalled, was her trip through the Waterton-Glacier International Peace Park. This park authorized by both the United States and Canadian Governments, provides an area where people can cross the invisible boundary between the two countries unmolested, and enjoy the scenic beauty of both countries.

Miss Story is hopeful that eventually we will have another such park on our southern border—The Big Bend International Peace Park. The United States Government has already authorized Big Bend National Park for use in this project, but the government of Mexico has not yet created a national park on their side of the border.

When asked what other preservation projects particularly interested her, Miss Story said the preservation of our scenic beaches. She would like very much to see more projects like the one at Cape Hatteras where a private philanthropic organization provided the necessary funds. After all, she said NPS funds will only stretch so far.

A native of Chicago, Miss Story also had a few words to say about her adopted city of Washington. She thinks it's almost disgraceful that more of Washington's historic sites have not been preserved—particularly Lafayette Square.

When asked to comment on women in the NPS, Miss Story said they didn't hire many women naturalists, because they not only had to do the work of a naturalist, but had to assist in emergency rescue operations which were really just too rugged for most women.

Recalling her many and varied experiences during her Park Service career, Miss Story said, "My most pleasant memories of all have been the human contacts I have made—people in all walks of life—through my work in the NPS, my free lance writing, and the professional organizations to which I belong."

With this intense interest in people and in the work of the NPS, it isn't difficult to understand why Miss Story isn't really "retired."

Consulting Foresters

(From page 22)

with the work of consultants was also approved.

A meeting of the association is scheduled for Portland, Oregon, this fall. As it has for the past seven years, the association will meet in connection with the annual meeting of the Society of American Foresters.

President of the association is T. M. Howerton, Jr., Madison, Florida. Vice-president is Thomas Schweigert, Petoskey, Michigan; and secretary-treasurer is Ben Meadows, Jackson, Mississippi. The association was formed in 1948 as a means of developing and raising the professional standards of consulting foresters, to develop and expand the consulting field, to serve as a forum for exchange of information among consulting foresters, and to work with other agencies in developing and promoting forestry.

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Forest Beacon in Michigan

(From page 17)

return was \$3200 out of which workers had to be paid their share.

The second year was a lot better. Some \$15,000 worth of pulpwood was marketed by the association. The third year abnormal snow came close to driving the workers out of the woods; the association had only \$1000 worth of pulpwood to market that season. But the following year, as if the temporary set-back had spurred them, some one hundred workers hit the forests. They brought the association "out of the woods," too. That year the co-op sold \$40,000 worth of bolts. A part-time secretary-manager was hired. The home folk, banded together, were on their way.

By 1950 the gross return to the association as sales agent was \$66,500; it would have been larger if the market was better. In 1951 the outfit grossed \$133,000. The market conditions were better in 1952 and \$247,900 came into the coffers of the cooperative. The larger companies were finding that

the Au Sable Co-op was a producer where a sufficient amount of pulpwood could be found to attract buyers and bidding.

The association took on a full-time manager and secretary-treasurer. These two men, Jam Shultz and Bill Piper, added that element of constant management and planning that is so important in an operation of this type.

There was a drop in sales returns again in 1953 because of a dip in the price of pulpwood. But in 1954 the association was on the way up again—toward a third of a million in gross sales.

The community now is not subjected to the violent dips and rises of fast-operating itinerant buyers of stumpage who move on after the best available timber is cut. The local store owners have more stable business; the whole community is on a foundation of the modest agricultural units in the small farms *plus* this pulpwood business that goes into gear at a time when men

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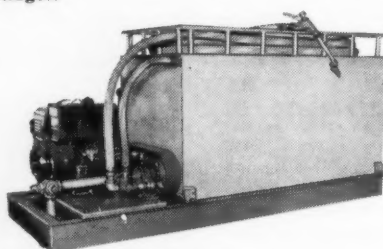
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But the real impact is on those who hold membership in their company, the co-operative that started with the \$3,000 loan. Take Andy for example.

When the association started, this good citizen was among those who doubted if it would amount to much. But he joined up. He started with a bushman's saw and a will to work. He now has a power outfit working in the woods, and some of his sons in the family of seven children, work beside him on Saturdays and during vacations, receiving day's wages.

In this home there are now an electric refrigerator, gas stove and modern plumbing; an addition to the house has been built. Andy has bought 80 acres to add to the 2 acres he originally owned. He's sent one of his girls through business college, hopes to send some of the boys through the university. And on top of that, with one of his friends he plotted out a six week trip to Alaska to get some salmon fishing, fulfilling a lifelong ambition.

Then there's Bill; he owned one acre and was blessed with ten children. He was a factory worker. But in 1944 he quit that job to make a career in the woods. It's paid off. He has a worked-over jalopy to skid and haul logs out of the timber. His sons help on the same basis as Andy's boys work; they get day's wages. Bill is the one who felt he was able to join Andy on that long-cherished jeep trip to fish and see the sights in Alaska.

Steve is another representative member of the association. He cut pulpwood a couple of years in the mid-1940s, but then worked at factory and railroad jobs. Then he returned to the woods in 1951. He works at it, for Steve in a recent year got nearly \$5000 for the pulpwood he turned over to the association, received a \$500 dividend, and owns another \$500 worth of the capital account of the Co-op.

Owners of small forest properties, acting independently often are victims of the fly-by-night operator. How much less than true worth is offered by these "gyppo" operators is illustrated by such instances as these:

In Louisiana a transient timber buyer offered a farmer \$500 for all sawtimber on a plot; a county agent got a consulting forester on the

job and the timber was appraised at \$1,700. A South Carolina owner was offered \$2,500 for his timber; it was worth \$7,460. An Oregon man was offered \$1,500; a forester's appraisal showed the timber was worth \$7,500.

There is increasing opportunity for the owner of a small forest property to secure aid and protection in marketing the harvestable timber he has by working through a county agent and a consulting forester. But such a small owner still is dependent on someone happening along to see his sawtimber and want it. Under such conditions competitive bidding by a reliable, larger operator so organized as to do a good job of leaving the woodlot in good condition for future production is lacking.

With a series of small forest holdings tied in with such an organization as the Au Sable Forest Products Association, there is assurance of sufficient volume in production to interest sound, fair-dealing larger companies. There is also the opportunity for securing the counsel of good foresters, and then there is the marketing phase to get a price in scale with what the timber is worth.

Recreation Areas

(From page 4)

ago for range revegetation and the 1956 figure is only one-sixth of the authorization by the same 1949 act. These downward trends should be reversed, Mr. Besley said.

Noting that the proposed '56 budget provides an increase of \$800,000 for timber management, Mr. Besley said this was in the right direction but was still "inadequate." Every year the national forests are growing about a billion and a half board feet more than is being harvested, he said. This surplus would be even greater if "we made room for younger, faster-growing stands by marketing more of the over-age decadent stands in which growth is offset by losses through decay and deterioration. The increased funds proposed in the 1956 budget for this item barely provide for doing the leg work needed to handle an increase in timber sales amounting to a little more than half of the surplus of annual growth over present annual harvest. Furthermore, these funds will not provide, as The

One little block of timber can suffer rough handling, the owner be dickered out of its real worth by a small operator. Fifty, sixty or more such woodlots pooled, put on a sustained-yield basis are a different matter. Combined they represent a business of size and stability and attract stable, fair-dealing companies to work cooperatively with owners.

What the pioneers in the jack-pine area of lower Michigan have done through their association has set a pattern that could apply generally to the millions of small forest properties across the nation. We've got to have management, sustained yield, good harvest and profit to the owner in those lesser bits of forest everywhere to supply a lot of the wood we'll be using in the future.

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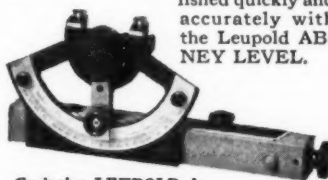
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American Forestry Association has urged, for advance cruising, management plans, and other provisions for 'orderly harvesting of the timber crop on a sustained yield basis at a high level of productivity and quality'."

Besley then attacked the failure to provide adequately for this activity as a case of being "penny wise, and pound foolish." Returns to the Treasury in actual cash from an orderly stepping up of timber sales will be more than \$10 for each dollar of the increased appropriation. "I say actual cash, because this is in addition to the value of the tremendous yields of water from the national forests, of their recreational values, and other uses which cannot

be readily evaluated in terms of dollars and cents.

"An increase of at least a million and a quarter dollars for 1956 would be more realistic and at the same time a prudent investment," Mr. Besley said.

The same "penny wise and pound foolish" attitude characterizes the proposed increase of \$875,000 for national forest fire protection, the executive director said. An increase of a million and a half dollars would be more realistic, he declared.

In conclusion, Mr. Besley dismissed a proposal to lop off over one million dollars on the Forest Service's program of state and private cooperation as being absurd on the face of it. "We simply cannot afford to do it," he said.

The Stearns Case

(From page 26)

Service that the claim of the Stearns Coal and Lumber Company is questionable under law."

In the letter which I quote Mr. Voigt says: "There are important reasons quite aside from the unsightliness that strip mining would bring to many, many miles of scenic mountain country why every point should be strained to prevent the stripping requested.

"I do not wish to minimize in any way the social problem of a relatively few people, employees of the Stearns people and their families, who might one day be confronted with a need for a change in place of living or living conditions and employment. Realism forces us, however, to face the fact that these

would not be the first people, or the last, in these United States to face such conditions. Similar things have happened since our country was founded, and likely will for as long as we exist as a nation, and we have no doubt that the people here involved will find that they have the capacity and initiative to meet the situation if or when the time to do so arrives. From humanitarian motives, you and the others of your committee can and should consider the possible social impacts upon these people—just as you no doubt will consider, to the extent proper and justified, the dollar profit outlook for the Stearns Company itself. Both of these are, in our opinion, side issues, secondary to the primary one of the long term benefit to the nation."

Stearns Company Stand

(From page 27)

within the present confines of the Cumberland National Forest and is adjacent to, and in many instances is contiguous to, the acreage already owned by the government. It would be our intention to work with the Forest Service and deed acreage that would block out their present holdings.

"It is contemplated that this offer would remain operative so long as

there is no state or federal legislation affecting strip mining on the acreage embraced. In the event of such legislation we, of course, would expect a termination or mutually agreeable modification in keeping with such changed status.

"The offer was made and is hereby confirmed as a practical method of avoiding the impossible conditions, under the present economic situa-

tion, imposed under the Forest Service's strip mining permit. It is our belief that it would be to the advantage of the Forest Service, the citizens of the county, and our company, if such an arrangement can be worked out, but in the event the government does not see fit to accept this offer it was understood that it would be withdrawn and in such event we would propose that we enter into a friendly suit to determine thru the courts our stripping rights under the 1937 mineral reservations clause in our deed. We contend that we have the right to strip the coal under this deed; your legal department denies that we have the right, and this

proposition is submitted as a compromise, with the further understanding that if the proposed plan in substance is acceptable to your department that it be reduced to writing in proper form to be agreed upon between us and executed by the authorized officials of your department and of our company.

"This is a very serious matter, not only to our company but to the county as a whole. You gentlemen who have been here on the ground know what our payroll means to this community and we shall appreciate your considering our proposition, and we hope you can act upon it affirmatively."

Planting America

(From page 15)

leaving but eight in operation, and at the close of the 1954 production year the Service also ceased to operate these and its grass and herbaceous plant nurseries. Henceforth, most of these nurseries will be operated by local governmental agencies and will appear in future lists under the agency headings.

Expansion of total output by the the state nurseries continues. Two new state nurseries began production during 1954, bringing the total active producers to 93. Their combined output was about 66 million plants greater than in 1953. Two states are building new nurseries, and five other states have important expansion or improvement programs underway. There are also six other state nurseries which produce only shrubs and other plants for wildlife cover plantings, and one forestry college nursery which is considered a part of a nearby state forester's nursery.

During 1954 a paper company and a sawmill company constructed new nurseries. There are now 15 forest industry nurseries in active production and two more are under way.

Thirteen states reported serious shortages of planting stock in 1954, and three reported surpluses. Presumably the others were reasonably close to meeting their current demand. There was the customary sale and trading of surplus supplies among the states, and at least one asked its planters whose land was near the boundary of an adjacent state to send their orders direct to that state which had a surplus. Since

New Mexico and Nevada do not conduct programs of their own, Colorado continued to make trees available for a few orders from New Mexico, and Utah continued to fill Nevada's orders.



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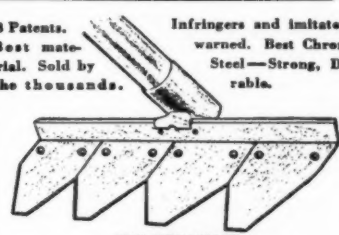
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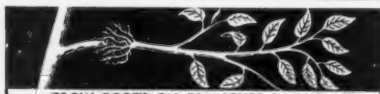


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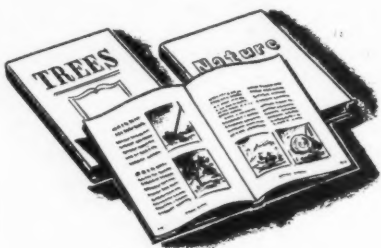
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Reading About CONSERVATION

By ARTHUR B. MEYER

IT WILL be a most interesting experience for the conservationist of 1978 to read the book *The Nation Looks At Its Resources*. (Edited by Henry Jarrett. Resources for the Future, Inc. 418 pp. \$5. 1954.) Should this as yet mythical gentleman have been present at the conference of which this book is a report he will enjoy comparing hindsight and foresight. If any of his own words are printed in the book he may want to eat them. On the other hand, it may turn out that he will be proud of what he said a quarter-century earlier.

In December 1953 sixteen hundred men and women met in Washington, D. C., to discuss long range problems of our natural resources, the whole field, the foundation of our democracy. "They explored and sought to relate issues that will be before the people of the United States during the next 25 years and beyond." This meeting was called the "Mid-Century Conference on

Resources for the Future." It was sponsored and organized by Resources for the Future, Inc., a non-profit corporation deriving its funds from the Ford Foundation. Naturally, evaluation of the book is inseparably wrapped up with evaluation of the conference on which it reports, but with one exception. The editors deserve considerable credit for having produced a clearly drawn picture of that conference for the permanent record. This is no mean accomplishment considering the number of participants, the volume of words uttered (five times as many as appear in the book), the diversity of ideas expressed, and the scope of the subject matter.

The conference actually consisted of eight sub-conferences, called sections, that were further divided into a total of 20 subsections. It is pertinent to note what was considered in December 1953 as the major embracing topics in the resource field: Competing Demands for the Use of Land (subsections "Urban" and "Rural"); Utilization and Development of Land Resources; Water Resource Problems; Domestic Problems of Nonfuel Minerals; Energy Resource Problems; U. S. Concern with World Resources; Problems in Resource Research; and Patterns of Cooperation.

Quite a field. Imagine sixteen hundred people, drawn from all walks of life, interested in everything from atomic power as a replacement for water power to zoology as a hobby, called together to express their views on the problems facing the natural resources of the USA.

To further confuse the issue, the Mid-Century Conference did not undertake to endorse policies or actions in the field of conservation, but rather only to explore and relate issues. Many people thought in

Financial Statement, The American Forestry Association

BALANCE SHEET AS OF DECEMBER 31, 1954

ASSETS		LIABILITIES AND SURPLUS	
Cash	\$ 36,581.52	Accounts Payable	\$ 9,583.28
Accounts Receivable	3,140.30	Other Current Liabilities	1,156.17
Inventories	11,955.53	Due Endowment Fund Advance	10,407.89
Furniture and Equipment (Net)	1,903.60	Deferred Income	62,847.57
Other Assets	2,556.51	Surplus	245,458.00
Endowment Fund Assets	273,315.45		
Total	\$329,452.91	Total	\$329,452.91

INCOME AND EXPENSE ACCOUNT FOR THE YEAR ENDING December 31, 1954

EXPENSES		INCOME	
Membership	\$ 52,574.26	Membership Dues	\$145,362.77
American Forests Magazine	122,374.31	Advertising	49,820.21
Sales	15,236.65	Sales	21,325.97
Trail Riders	63,044.88	Trail Riders	64,470.00
General Administration	57,147.94	Contributions and Bequests	14,839.26
Projects	1,795.13	Endowment Fund Income	14,929.65
		Projects	1,400.00
		Total Income	312,147.86
		Excess of Expense over Income	25.31
Total	\$312,173.17	Total	\$312,173.17

In our opinion the above condensed Balance Sheet and Income and Expense Account, fairly present, respectively, the financial condition of The American Forestry Association at December 31, 1954, and the results of its operations for the year ended on that date.

SNYDER, FARR AND COMPANY
Certified Public Accountants

this, and think in other instances, that we devote far too much time and energy to talking about conservation and not enough to doing something about it within the bounds of present knowledge. Present knowledge of what to do far exceeds means of doing it. Be that as it may, the sponsoring organization doubtless had a reason for this approach. It expected to embark upon a long term program to help solve resource problems. It wished to hear from all schools of thought, from expert and laymen, from farmer and miner and business man and scientist. Probably a few hundred letters to institutions and individuals could have compiled this information for them much more cheaply. But would they then have been sure? Conservation is, in fact, everybody's business, and a business that will not function properly without everybody's understanding and participation. Furthermore, the very Babylon of tongues in the realm of conservation is one of its most notable characteristics at mid-century. In this light the conference served an important service. It is encouraging to note, furthermore, that the recurring theme of the subsections and sections of the conference dwelt upon research to get the facts, proper communication to make those facts known and understood, proper coordination between apparently conflicting interests. These are the things needed in the present resource conservation realm. This theme could be heard, even above the hum of a thousand voices.

Anyone interested in any phase of conservation must, by the nature of resource conservation, be interested in the whole field. Conservationists therefore find this book of interest and value. As reported, each section and subsection is preceded by a short summary of the questions raised, followed by a condensation of the open discussion. At the end of each section the chairman's summary is quoted in full. These summaries, combined, give the reader an excellent thumbnail sketch of how the nation looks at its resources in the middle of the twentieth century. The reports of discussion by individuals, "from the record," are often instructive, always interesting, for they give an insight into probably the most important ingredient in the problems of conservation—the human element.

Both the sportsman and the conservationist will find entertainment

and instruction in Frank C. Edminster's *Hunting Whitetails*. (William Morrow and Co. 192 pp. \$3.75. 1954.) The author is both an experienced hunter and a trained biologist.

In his first chapter, out of six, Edminster tells the story of his own first hunt. Further chapters describe deer hunting methods in general, tell what to do after the deer is killed, and give cooking recipes; discuss equipment for the hunt; and give a great deal of information about deer and their "rearing," if you choose to call it that, which require coordinated efforts by foresters and wildlife managers. The last chapter traces the hunting pressures on the whitetails, or rather its history, from Indian times down to the present time in which intelligent management practices have, in many instances, brought this species of wildlife back into important numbers and have maintained it as one of the hunter's major quarries in modern times.

Ecology, dealing with the relationship of life forms to the conditions, the environment, in which they live, might well be called "the economics of conservation." You buy and you sell, and a balance is reached. It is an enthralling, a basic subject to anyone interested in the physical world of our planet. It is also a very big subject, and as we learn more about it we will be a lot further along than we presently are in understanding man and the world in which he lives.

Elements of Ecology (By George L. Clarke. John Wiley & Sons. 534 pp., 1954.) was written by a marine biologist of Harvard University and Woods Hole Oceanographic Institution. It emphasizes water environment. This is natural, considering the interests and training of its author. It is weak on the air-land-vegetation side of ecology, and its author might well have consulted a forester in several instances. Nevertheless, it is well written and will contribute substantially to the study of this important subject.

Principles of General Ecology (by Angus M. Woodbury. The Blackiston Co., Inc., 501 pp. \$6.00. 1954.) stresses the landward side of things.

Both of these books, primarily, are textbooks. Both are instructive and worth the attention of anyone who is seriously interested in this vital and basic subject.

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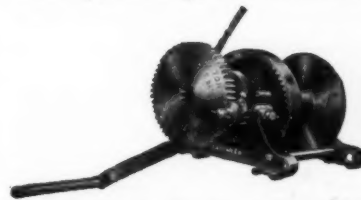
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W. T. Dickerson, President

Letters to the Editor

(From page 3)

local participation in financing is required for projects of all other federal agencies as is required for projects constructed under the provisions of the Hope-Aiken law. Such a policy would result in a broad-minded, constructive evaluation of all types of projects by the public.

Paul L. Jameson
Garrison, Kansas

EDITOR:

Congratulations on presenting a timely discussion of a most important subject in your December issue article by Netboy, "Water—Lifeblood of the West."

The constant increase in population and development here in the Northwest puts an ever-increasing load on our available water supplies. It becomes more and more necessary that we take care of those we have and seek means to augment them.

Ignorance and carelessness in forest operations led to watershed damage in the past. In most cases we now know how to carry on the timber harvest and make use of other forest resources without harming the watersheds or upsetting water yields. We can protect water quality and maintain favorable distribution of water supply if we wish. Water and watersheds will be properly managed when water values are fully recognized.

Multiple use generally is practicable and desirable. Priorities, however, are essential. Water has a high priority rating and deserves careful consideration. Other uses often must be adjusted to it. We cannot disregard it in our management of the land.

W. E. Bullard
Portland 13, Oregon

EDITOR:

Heartiest thanks and congratulations on the numerous articles concerning wildlife in your February issue. This natural re-

source, upon which, rightly or wrongly, an industry estimated at \$9 billion a year is dependent, is all too frequently neglected by publications of more or less general circulation, being confined largely to soliloquy among conservationists. I was particularly gratified at your attention to the theme of National Wildlife Week, having been state chairman of this movement for several years and a natural crank on the subject of wetlands anyhow.

There is one phase of benefit from wetlands which seems to have been largely overlooked. My Soil Conservation Service friends in South Carolina discovered last year that springs and wells in the vicinity of farm ponds, which had dried up in previous droughts, held ample water, even at the height of last summer's sizzling dry spell with record breaking temperatures.

I note with interest your gentle remonstrance on the almost complete ignoring of foresters in the Watershed Congress, having been associated with foresters and forestry and having common sense enough to know that proper watershed management is largely dependent upon this science. One outdoor writer who attended the Congress was slashing bitter in his denunciation of it, declaring it had been swallowed by the "big dam boys." However, I trust that some good will come out of it, which may take some militant plugging by the proper forces.

Nello Cassai's presentation of the Upper Colorado Project question was the most sober advocacy of it I have seen. However, I think one angle seems to have been overlooked. The billion dollars to be spent is, as usual, spoken for as for the "initial phase." The final cost has been estimated at from \$5 billion to \$15 billion, all coming from the taxpayers' pockets all over the country.

H. R. E. Hampton
Associate Editor
The State
Columbia, S. C.

EDITOR:

Please accept my heartiest congratulations for the interesting articles which have appeared in your magazine during recent months. I think they have all been very good, but I particularly enjoyed those with reference to WATER in its various phases.

Mr. Weldon F. Heald's article in the November issue, entitled "Watch those Raindrops" was exceptionally good; as was "Water—Life blood of the West" by Anthony W. Netboy, in the December issue. Then the article in the January issue entitled "The Water Wagon is Beginning to Roll" I think was very fine and informative.

In my opinion, we as conservationists, would enjoy more along the same line. I sincerely trust that you will continue along the same trend. Too much of this sort of information, can't be said about this particular topic. . .

A. A. Rosenfeld
McKeesport, Penna.

State's Righter in the Making

EDITOR:

The West seems to be producing some interesting men these days. From reading

(Turn to page 63)

What's NEWS across the nation

EDUCATION IN ITS BROADEST SENSE THAT IS FOUNDED UPON THE KNOWLEDGE of the interrelationship of all our natural resources was urged by Mrs. Katharine Jackson, a director of the AFA, at Montreal's North American Wildlife Conference. The New Hampshire state senator said that achievement of this goal depends on three key essentials. These are: (1) Land managers must talk the simple language of the people; (2) Conservation must be given popular appeal—made dramatic and human; (3) Programs must show concrete results that add up in terms of dollars and cents.

BUSINESS MEN WITHOUT ECOLOGICAL UNDERSTANDING ARE TODAY ONE OF THE GREATEST threats to intelligent forest, range and associated resource management, J.V.K. Wagar, of Colorado A. & M. College, told delegates to the conference. "Business men are powerful but poorly informed," Mr. Wagar said. "They read little beyond the newspapers which carry their advertisements and promote their schemes, and which are written by journalists with scant biological and ecological training. We would not weaken the power of business men, but we should inform them. Upon better journalism, which must be one of our shared professional responsibilities, rests the future of our professions and civilization itself. It is our limiting factor in the progress we covet."

BERNARD L. ORELL, VICE PRESIDENT OF THE WEYERHAEUSER TIMBER COMPANY, told upwards of 1000 delegates "there is no place in the conservation movement for blanket indictments of whole industries or of whole groups. The labeling of any group with such titles as "land grab gang," "special interests," or "exploiters" is as patently unfair as it is for a forest industry man to accuse all sportsmen or campers of being "irresponsible," "gun happy," "fire bugs," or "litter bugs." At the same time, Mr. Orell declared that controversy is healthy for conservation as is criticism, straight talk and direct talk and direct action. Controversy, he said, causes men to think, to develop methods and to draw sound conclusions.

THE NEED TO FACE FACTS SQUARELY AS REGARDS THE MAGNITUDE OF THE watershed task in the United States in terms of the length of time that will be required to do it and the amount of money it will cost was stressed last month as representatives of a wide cross section of resources activity gathered in Washington to chart a second National Watershed Congress to be held in Washington sometime next December.

"THE PUBLIC IS IN A TURMOIL OVER THIS WATERSHED MOVEMENT" THE DIRECTOR OF one middle-western watershed project said. "Furthermore, the public has no conception of the length of time, in period of years, that will be required to do the job. In brief, the public is being sadly fooled by the time element involved here. Unless we can educate people, or provide more money, a wave of stagnation may set in. That would be a shame because we've now got them in the right frame of mind. We don't want to dishearten them. Therefore, this next Congress requires careful planning. We've got to clearly outline the whole situation as it exists in terms both the public and the members of Congress can readily grasp and understand."

THAT THE SECOND CONGRESS WILL PROBABLY DRAW THREE TIMES AS MANY PEOPLE as the first was conceded by most representatives present. At the same time, the planners appeared to be fully cognizant of the tremendous responsibility they face in charting a session that will continue to broaden the understanding of the various groups in resources work and the public. As the reflector of the con-

(Turn to next page)

sidered opinions of these various groups, it is believed that the Second Congress should provide the basis for certain factual data from which logical conclusions may be drawn. It was agreed that careful progress reports on state water legislation and the progress of Public Law 566 itself should be presented. The chief obstacles in the path of watershed programs should be clearly defined, it was agreed. Case histories on two or three watershed programs now going on should be presented to further clarify the job as it exists at local levels. In addition to drawing more professional people to the Second Congress, it was agreed that a need exists to attract the interest of more urban people.

WITH THE PUBLIC IN A RECEPTIVE MOOD, ONE REPRESENTATIVE PRESENT SAID HE favored an immediate push to have ten billion dollars a year allocated for implementing the small watershed program. Something was out of whack when 100 billion dollars was being proposed for express highways and a "piddling" amount for watershed improvement he said. At the same time, another representative revealed that more money was not necessarily the problem. Lack of trained men—engineers, foresters, and soil experts—tended to place a limitation on any expansion program that develops too rapidly. Careful scheduling in terms of a 30-year job, or more, would appear to be the answer, he said.

THE WORLD DEMAND FOR PULP AND PAPER PRODUCTS "WILL BECOME ALMOST insatiable," E. W. Tinker, executive secretary of the American Paper and Pulp Association, predicted last month at Paper Week in New York. "Already substitutes for wood pulp are being given almost hysterical consideration. However, the logical answer to this situation is the full development of the Canadian and United States industries. Limitations on our expansion will be the availability of a perpetual supply of pulpwood which, fortunately, is a renewable resource. On the basis of the forestry programs that are being initiated by the industry, in both Canada and the United States, I think I am safe in saying that our output can, over the next decade, be doubled in order that we may meet our responsibilities.

REPRESENTATIVE HAROLD D. COOLEY, OF NORTH CAROLINA, CHAIRMAN OF THE House Committee on Agriculture, has introduced a revised version of the bill relating to mining claims on national forests, on which the committee has been working for the past two Congresses. The bill introduced by Mr. Cooley is somewhat broader than any of the previous measures considered by the Committee in that it would apply not only to lands in the national forests but also to the so-called "submarginal" lands which were acquired under Title III of the Bankhead-Jones Farm Tenant Act and are now administered by the Forest Service. The bill also includes, with respect to those lands, provisions which would withdraw sand, gravel, pumice, and some other common materials from jurisdiction under the mining laws and make them subject to direct sale by the Secretary of Agriculture.

DR. HUGH H. BENNETT, FORMER CHIEF OF THE SOIL CONSERVATION SERVICE, LAST month called on the nation to "come to the rescue of soil conservation" in the United States. Dr. Bennett laid the "whole difficulty" at the doorstep of those who "should have been true and trusted friends of soil conservation but who have turned out to be the opposite, however good their intentions may have been." The speaker was referring to State Extension Services administered by the Land Grant Colleges and Universities of the 48 states. County agricultural agents, farm advisers and a wide variety of farm specialists are employees of State Extension Services. Bennett, who referred to undercover attempts by Extension leaders to obstruct the national soil conservation program, warned that recent attacks on the Soil Conservation Service are really aimed at farmer-organized and farmer-managed Soil Conservation Districts. He called on Extension to "throw off its old fashioned obsession that no other agency but itself should contact farmers—and get on with its real work, of which there is more than can be done."

"WHAT IS NEEDED NOW MORE THAN ANYTHING ELSE IS MORE AND MORE FRIENDLY cooperation and less and less of the spirit of acquisitiveness and domination," Dr. Bennett said. In praising the Soil Conservation Districts, he recommended "leaving them alone—and quit trying to knock them out." He further urged that the Land Grant Colleges and the Extension Services "get out of the field of stirring up controversy . . . and get back on the job of education up at the colleges. If any of them are in politics, they should get out of that too. The same advice goes for Extension." Congress, Dr. Bennett said, should review last year's reorganization of the SCS in the light of a full year's operation, "with the view of correcting mistakes or weaknesses that may be found."

Letters to the Editor

(From page 60)

YOUR article in the January AMERICAN FORESTS and some of Mr. Neuberger's own writings, I am inclined to believe we have in him the making's of a state's righter in the old tradition. One thing seems sure; this man is entirely too independent—one might say almost a rugged individualist—to ever fit completely in with any party groove and certainly not the limited New Deal groove. You are right, he is an interesting development and will be watched with interest.

Thomas S. Jacobson
Richmond, Virginia

EDITOR:

Commenting on your article in the January issue, "What about Richard Neuberger?" by Merlin Blais, I wish to state that I believe Neuberger is a force to be reckoned with and that he will definitely go places. As concerns the development of the Columbia River basin my observation of the situation on that, and it was certainly a hot issue at the time we were there on our Conservation Caravan and AFA Convention, in Portland, Oregon, was, that the development of its power and irrigation potentialities and natural resources such as timber, wildlife and especially fish, would be a good thing. I say that if the people in the Pacific Northwest want the development and need it as is indicated by Mr. Neuberger then more power to them with Neuberger. It would appear that Neuberger has the mandate from the people. True, by a small majority, yet a majority.

At the outset let's get it clear that I do not favor government taking over business, but I see no harm in government acting as a scotch for business if it starts to slide backwards, and bolstering business so that our American way of life may be maintained and accelerated rather than retarded. As concerns the dams and the hydroelectric power I certainly will go along with Neuberger that we do not need government partnership with big private power companies for this smells of the Dixon-Yates contract, and for what I know and think about that it stinks to high heaven.

Well do I remember, on or about September 3, 1954, when we of the caravan stood in Hungry Horse Dam on Flathead river near Whitefish, Montana, and listened to the guide explain the functions of the plant and reservoir. Very vivid in my mind is the fact he pointed out that in addition to furnishing power to operate the plant on the site, the vast reservoir of water impounded by the Hungry Horse Dam was released as needed in dry seasons to other power plants down stream which would be out of commission but for this arrangement. Also, I remember asking a fellow AFA member of the Pacific Northwest, who was in the group, if he would indorse that. His answer was "Sure, it's a good thing, but private industry should do it." My reply was why didn't private industry do it? Are we going to hold up civilization 25 to 50 years waiting for private industry to do something which should be done now? I say if private industry can do or

will do a thing that needs doing let them do it. But if they can't or won't do it and the people need the service then let the people through their government do the thing. But for the REA, I would still be burning a grease pot for lighting my home as would millions of other farmers. Therefore, I shall never condemn REA or TVA and shall never cease to admire men like the late Senator George W. Norris of Nebraska, even though I am a Democrat. . .

One thing that Senator Neuberger has omitted, I believe, which I would like to call attention to, is the dead wood in our national parks. In Glacier National Park, Montana and Yosemite National Park, California, a forester and I particularly noticed areas where the tops of trees were dead and such trees had a life expectancy of less than five years, and doubtless in these areas there could have been harvested merchantable saw timber to the tune of five, 10, and up to 20 thousand board feet per acre and the forest would have been more a thing of beauty than with those old dead top trees in there. . .

The same thing is true in our national parks here in North Carolina. Lot of dead wood needs to come out. Frankly, I talked at length with Senator W. Kerr Scott about this very thing just prior to his departure to Washington to assume duties, and he seemed inclined to agree with me. I think it would be a fine thing for Richard Neuberger and Kerr Scott to team up together. Neuberger would do well to make his acquaintance if he hasn't already done so, and more power to them both in the interest of good government, good land use, from the standpoint of soil, water and timber which is our nation's life blood. Furthermore, I see no sense in the government allowing insect infestation to go on and on in our park's timber with no effort to check it thereby allowing the insects unmolested, to destroy millions of trees in our parks and to spread to adjoining private owned timber. By-and-large I am with Neuberger all the way, and maybe he intends to try to do something about this last mentioned matter, but I should like to hear him say so. . .

G. P. Sykes
"Orange Country" Tree Farmer
Hillsboro, North Carolina

Covering the Waterfront

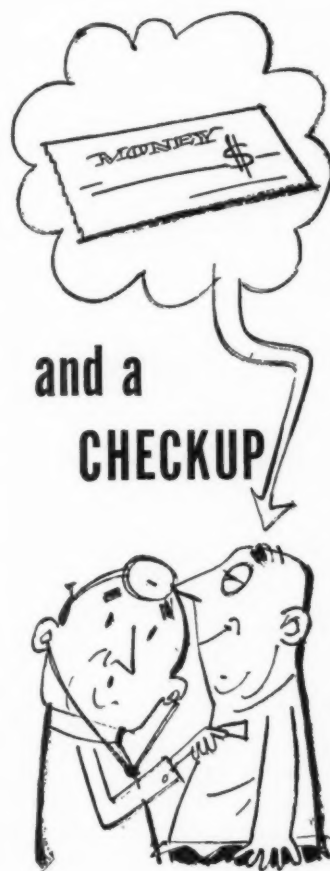
EDITOR:

I have for a number of years been an annual member of the Association and I have followed with increasing interest the development of your magazine from a periodical of purely parochial interest till today when it has expanded its editorial policy so as to discuss not alone the primary problem of forest conservation, but all collateral concerns.

In my judgment, the present issue, February, is one of the most informative and interesting that I have read. Permit me to offer you my congratulations.

Eugene L. Mullaney
165 Broadway
New York, N. Y.

fight cancer with a CHECK



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AMERICAN
CANCER SOCIETY

Feature Photo of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS will pay \$10

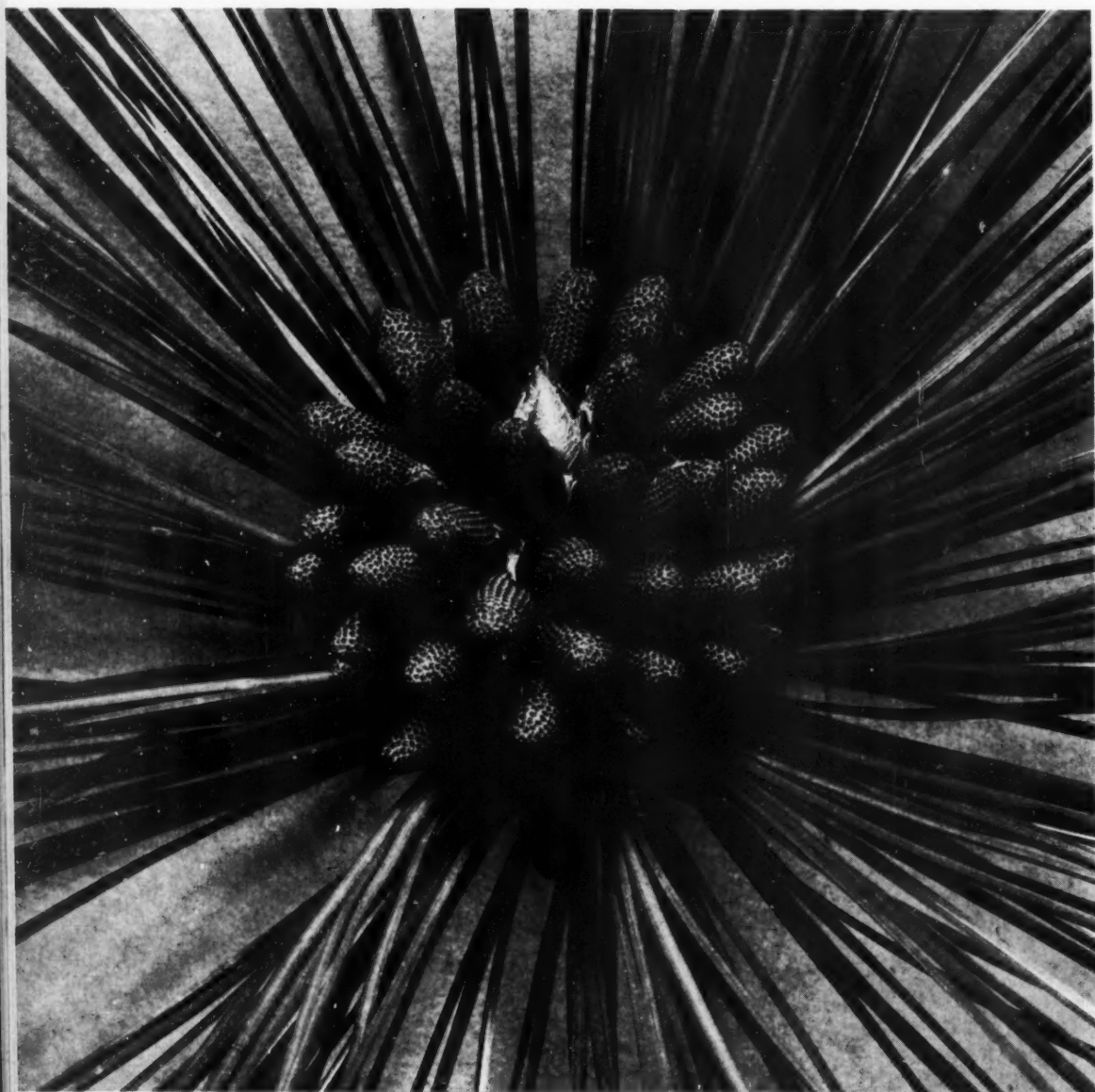


Photo submitted by Tommy T. Kohara, Alexandria, Louisiana

Asking ten people to identify this photo would probably beget ten different answers. Actually, it is a close-up view of the pollen flowers of a longleaf pine. Note bud at top of cluster



*In honor of the 50th Anniversary
of the U. S. Forest Service,
with which we have worked for
half a century, side by side,
on behalf of a common cause:
Forests for the Future.*

*The man
who knows
the woods*

A man who knows the woods can see
A world that's hid from you and me;
Can tell the future in the way
A seedling seeks the light of day;
A hundred years of happenings
Are writ for him in hemlock rings;
To him, a single blighted leaf
Tells secrets of the wood beneath.

With practiced skill, the man who knows
Can plan the way the forest grows,
Foretelling what its yield will be
As seeds replace it, tree for tree,
So that its bounty may adorn
The lives of millions yet unborn,
And thus, though he himself be gone,
The glory of his work lives on.

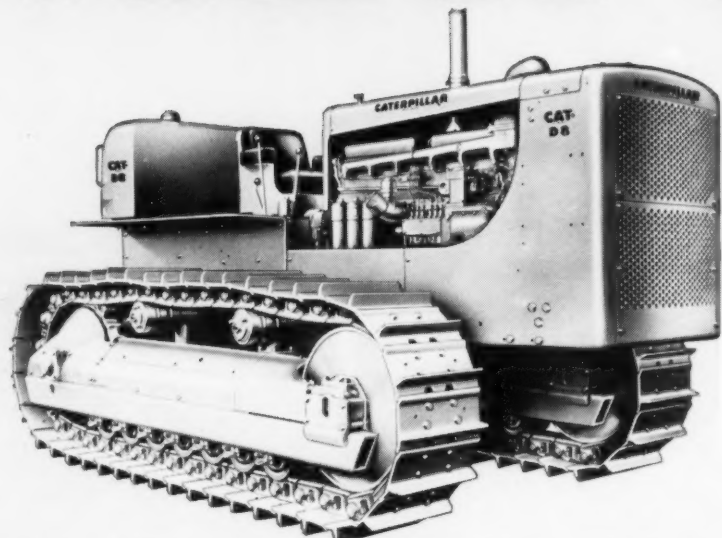


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NEW OPTIONAL DRIVE, torque converter or direct drive. Torque multiplication of 5 to 1 gives smooth, efficient operation in each speed range.

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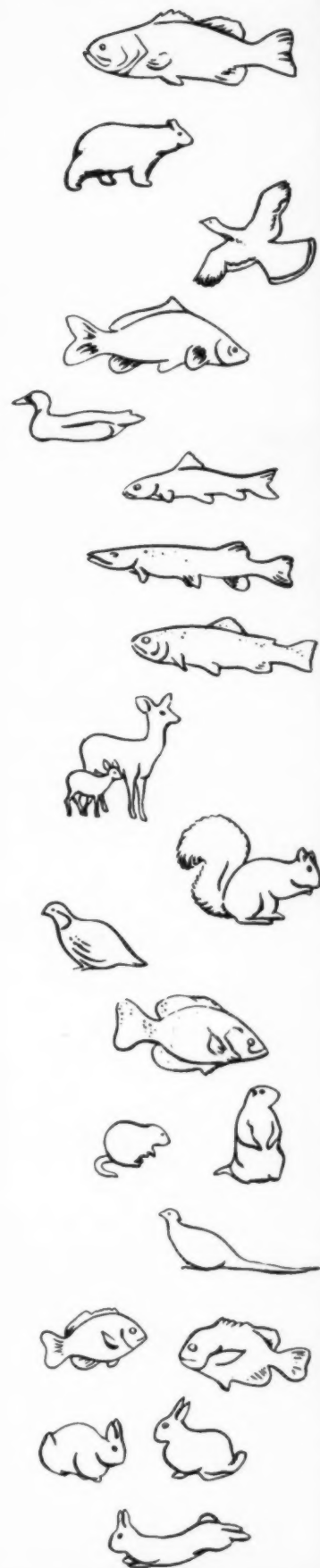
Conservation Chart

American
FORESTS

VOL. 61 NO. 4

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PART ②



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Sport Fishing Institute
Bond Building, Washington 5, D. C.

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A limited number of extra copies of this issue of American Forests have been printed, including the Conservation Chart, and will be available on a first come first serve basis at 50 cents per copy. The chart and instructions without the magazine will be available from the Association later at sixty cents each.

DIRECTIONS FOR COMPLETING CONSERVATION CHART

To finish your conservation chart, follow these directions:

First: Unfold the chart. If you wish, you can iron out the creases with a warm iron. Iron on the back side of the chart. If the iron is too hot it will scorch the paper!

Second: Study the chart. Notice that it is a picture of two valleys. The valleys differ from each other. Can you point out some of the differences? Learn the names of the three towns, and the two rivers and two lakes.

Third: Read the story of the two valleys, pages 4 to 6. We call it "The Conservation Story."

Fourth: You are now ready to put the animals where they belong on the chart. Cut along the outside of the white border at the right side of the chart, separating the strip with the animals from the chart itself.

Fifth: Do not cut out any of the animals until the directions tell you to do so. When you do cut them out, cut around the outside of the white border which you see around each animal. Now turn to page 7. This page, and those which follow it, tell you how to finish the chart. As you read, you will find the instructions which you are to follow.

Sixth: When you have finished the chart, you will want to study it again, and will want to re-read the conservation story. The chart teaches a very important lesson. You will not want to forget what you have learned about the wise use of our land, soil, water, woods, and wildlife.

Seventh: On page 15 there are suggestions about things you can do. Read these suggestions. You might wish to follow some of them. You will enjoy learning about your valley.

THE CONSERVATION STORY

Muddy River Valley and Clear River Valley were alike when settlers first saw them. In the one valley, the people took good care of their soil, water, woods, and fish and game. In the other valley they were careless. They destroyed the very things that meant so much to them.

As you look at the two valleys on the chart, you can decide very easily in which of them you would prefer to live. You wouldn't want to live in Muddy River Valley. You would enjoy living in Clear River Valley.

MUDDY RIVER VALLEY

When settlers first saw Muddy River Valley, the land was covered with tall trees. There were many wild turkeys, gray squirrels, bears, and other animals of the big forest. Clear, cool streams flowed from the hillsides. They emptied into the big river.

The stream wasn't called Muddy River then. It was clear and cool. It was called Cool River. Many big trout lived in this beautiful stream. Mud Lake was clear, too. It was called Mirror Lake. There were big beds of plants in the water. There were many fish in the clear waters of the lake.

A thick layer of black soil covered most of the valley. The leaves which fell each fall gradually rotted into a thick layer of "humus" which enriched the land. Rain which fell on the forest soaked into the humus and was slowly absorbed by the soil beneath. It appeared again later as cool springs. The springs flowed all year, even during long dry spells.

The settlers liked this valley with its rich soil and its clear, cool springs and streams. They decided to live there. They cut down some of the tall trees and made log houses and barns with them.

Trees were cut to make room for fields and pastureland. The rich soil raised tall corn and good grass for the cattle.

In time, more of the forest was cut away to make room for more fields. A sawmill came to the valley. Many tall trees were cut into lumber and hauled to a faraway city.

After a few years, most of the big trees had been cut. In the hills, where they couldn't farm, people carelessly allowed fires to burn through the cut-over forests. This prevented young trees from growing up to replace the ones that

had gone to the sawmill. It left steep slopes of bare soil.

In time, two towns appeared in the valley. Some factories were built there, too. More and more people moved to this area. As the towns grew, the farmers had more demand for their crops. They plowed more and more of the land, even on the hillsides.

The farmers plowed in straight lines, up and down hill. They thought it was easier than plowing along the hillsides. After heavy rains, the water ran down the plow furrows. It carried some of the rich topsoil with it.

The farmers noticed that some of the soil washed down hill, and that small gullies were made by the rushing water. They didn't worry, though. There was still plenty of good soil on the land.

As the soil washed into the clear, cool river, the water became muddy. This water muddied the lake, too. Some of the topsoil from the fields covered the gravel bottom of the river. Gradually, the fishermen in the valley were catching fewer trout in the stream, and fewer fish in the lake. The soil which covered the gravel destroyed much of the fish food. The muddy water prevented the growth of food, too. The fish couldn't see to find what food there was in the muddy water.

The towns discharged their sewage into the stream. Factories poured acid and other wastes into the water. The river and the lake would no longer support many fish. People who wanted fish for dinner had to go elsewhere to catch them.

In time, the land raised less corn and other crops. There was less rich soil to raise them in. The pastureland raised less grass for the cows

to eat. Some of the land couldn't be plowed because big gullies had formed. The gullies grew bigger each time it rained, and the water rushed down them toward the river.

The rich topsoil kept washing away with each heavy rain. The remaining soil had little humus. As the good soil washed away, nothing but poor soil was left. It wouldn't raise good crops.

Now, the farmers had less to sell. So, they had little money to buy things with. The buildings didn't get the repair they needed. The farmers started to work in the factories. They couldn't earn enough money to live on by farming alone. They still raised some cows and tried to raise crops but the crops were poor. The cows gave little milk, too. They couldn't get enough good grass to eat.

When farmers first cleared some of the land, many deer came to the valley. You could see them any morning or evening. There were rabbits and grouse and many other wild animals. Later, when the woods had been cut and burned, and the fields were bare and eroded, most of the wild animals disappeared also.

Now, the people in the valley couldn't go fishing and hunting. They couldn't see the interesting wild animals, either. People couldn't swim in the muddy, polluted water.

Sometimes the river overflowed its banks. Flood waters covered parts of the two towns. At other times there was very little water in the river. Now, heavy rains flowed quickly into the river, causing floods. Little of the rain soaked into the soil, to appear later as springs. So, during dry summers, the springs no longer

flowed. They no longer fed the river with water, and the river was very low during long dry spells.

The farmers now had to drill deep wells to get water for themselves and their cattle. They could no longer get good cold spring water.

The two towns couldn't get good water, either. They took the muddy polluted water from the river and purified it. Taking out the mud and other impurities was expensive. The people now paid a high price for their water.

During dry spells, in summer, there wasn't enough water for all the needs. So, the people couldn't water their lawns. Sometimes the factories shut down because there wasn't much water.

This had once been a very pretty valley. Now it was unattractive. The buildings weren't painted. There were no green fields with good crops growing in them. The wild animals had disappeared. The people could no longer hear the bobwhite call, or hear the drumming of the grouse. They couldn't go fishing or hunting and they couldn't go swimming. Some of them couldn't earn much money.

Even now the people living in the valley don't really call their towns Mudville and Drabtown. They don't call their stream Muddy River. But, everyone else calls them by these names. So, that's what we called them on the chart, because the "nicknames" described them so well.

You wouldn't like to live in this valley. You couldn't have much fun there. You would want to live in a valley that had forests, good soil, clean water, and fish and wildlife.

CLEAR RIVER VALLEY

Some people came to Clear River Valley, too. Like the other valley, it was covered with tall trees. Here, too, the river was cool and clear. It was fed by cool springs flowing from the hillsides. These people decided to settle in the beautiful valley.

The settlers left another valley to come here. Like the people in Muddy River Valley, they had destroyed the forests and the rich soil. The stream in that valley, too, had become muddy and polluted. They left because they no longer

liked the valley. They couldn't go fishing there, and they couldn't swim in the waters. They couldn't earn much money there, either.

When these settlers came to Clear River Valley, they had learned an important lesson. They had learned that the topsoil is very important. They had learned that most of the rain must soak into the ground if springs are to run and if rivers are not to overflow their banks.

The settlers decided that they would take good care of their new home. They would be

careful about the woods, the soil, the water, the fish, and the wildlife.

These people cleared some land, too. They used the big logs to build their houses and barns. They cleared land for fields and pastures.

Most of the steep hillside was left in woodland. When big pine trees were cut, seed trees were left to start a new forest around the stumps. When other kinds of trees were cut, only a few of the big ones were taken each year, and there was room for the smaller ones to grow up and take their places. Each year only some of the trees were cut and sold. There were always more growing to be cut another year, and every year the people had some income.

The settlers built a fire tower on top of the mountain. During dry spells a man would spend the day in the tower looking for smoke. If he saw any, he would call a fire warden, telling him where the fire was. The warden and helpers would rush to the fire and put it out. These people knew that the forest was important to them. They didn't want it destroyed.

The people were very careful with their fires. They put up signs warning visitors to be careful, too. Children were taught in school about the damage which could be done with a single match. They learned that a fire might harm the forest and the animals in it, and might even spoil Clear River and Clear Lake for fishing and swimming.

The farmers were careful not to feed too many cows on the pastures. If the cows were allowed to eat too much of the pasture there wouldn't be any grass to hold the soil, and some of it would wash away. Crops were planted as broad strips across the hillside. Each strip was a band of corn or hay or some other crop. Rainwater which washed out of a grain field would run onto the hay. Here it would soak into the ground. The mud would be caught here too. Some of the strips acted as dams to catch the water and let it soak into the ground.

The farmers knew that they needed good topsoil on the land. They knew that the rain must soak into the soil. The crops would be good if they took good care of the soil and the rainwater.

The people left brush thickets along the fences for wildlife cover. They liked to hear

the bobwhite call, and they liked to see the many wild animals that lived in this cover. They and their children liked to go fishing. Often, they fished in Clear River for a meal of trout, or in Clear Lake for some perch or other fish.

There was a good beach on Clear Lake. Children swam there every day during the summer. The water was clear and unpolluted. They didn't need to worry about getting sick if they swam there.

In time, a town grew along Clear River. The people decided to call it Pleasantville because it was a pleasant place in a pleasant valley.

Pleasantville always had plenty of clear, clean water to drink. The water was taken from Clear River. Since it was so clean, it needed only a little treatment to make it safe for drinking. This didn't cost much. The people paid very little for their plentiful supply of good drinking water. It was plentiful because the people took care of the woods, soil, and water.

Pleasantville took care of its wastes. The town had a good sewage treatment plant. It didn't want to pollute beautiful Clear River. The wastes were removed from the water before it was discharged back into the river.

A factory was built above the town. It needed clean water to make good products. The company wanted to be a good neighbor, too. It wanted the good will of the people living in the valley. The factory built a treatment plant to take care of its wastes. It didn't pollute the river. It purified the water before returning it to the river.

The people in the valley were healthy. The crops and the milk were rich in mineral matter taken from the soil. The people who ate the food and drank the milk received the nourishment which their bodies needed.

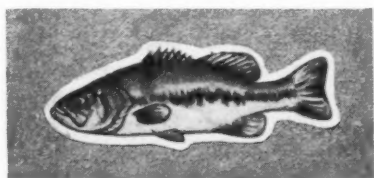
Pleasantville folks spent much of their time out-of-doors. They hiked in the woods. They went swimming in Clear Lake. Most interesting of all was the fishing. Nearly everybody in the town went fishing.

The people in Clear River Valley were happy and contented. The farms raised good crops. Farmers could buy the things they wanted from the money they got for the crops. You can see why people enjoyed living in this pleasant valley.

THE ANIMALS IN THE VALLEYS

LARGEMOUTH BASS

The largemouth bass likes clear, warm water. He likes to be near weed beds, too. There are many of these bass in Clear Lake.



The largemouth bass and the smallmouth bass are cousins. You can tell from the pictures which is which. The largemouth has a stripe along the side of its body, extending from head to tail. The smallmouth has a number of dark bars extending down the sides of the body.

Cut out the largemouth bass and paste it on Number 7 on the chart.

There are no largemouth bass in Clear River because these fish prefer warm water. Clear River is cold in its upper reaches and cool where it enters Clear Lake.

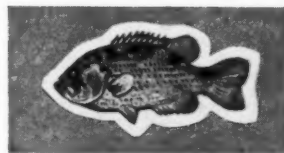
There are no bass in Muddy River or in Mud Lake, either. Not many kinds of fish can live in these waters. The soil washes from the land during rains. It keeps the water muddy. Not many kinds of insects, minnows and other food animals can live in muddy water. The bass, which feed by seeing their food, and catching it, couldn't see these creatures in the dark muddy waters, even if they were there.

In addition to the mud, the water receives sewage from Mudville and Drabtown. As this sewage decays, it uses up much of the oxygen in the water. Fish must have oxygen as well as food. Sometimes there is very little oxygen in Muddy River.

The factories are dumping acids and other harmful wastes into Muddy River. Most kinds of fish can't live in these acids and wastes. The waters of Mud Lake are polluted, because Muddy River flows into it.

In the clear warm water of Clear Lake, the bass have plenty of food. There are many small fish and insects for the bass to eat. There is plenty of oxygen in this water, too, and there is no pollution. So, Clear Lake has many largemouth bass in it; Mud Lake has none.

ROCK BASS



The rock bass likes to live in clear, cool streams. Water in the upper part of Clear River is quite cold, even in summer.

So, rock bass live in the lower end of the stream, where the water is cool, but not cold.

This fish is a member of the sunfish family. The striped bass, living along the coast, is sometimes called a rock bass, too. This big salt water fish isn't related to the rock bass in Clear River.

The Clear River rock bass eat many kinds of food, but water insects are the main part of their diet. The fish forage around the gravel and rocks on the stream bottom, looking for insects and small crayfish. When a land insect falls into the river while flying over it, the rock bass is glad to eat it, too.

If you were to go fishing on Clear River between the bridge and the mouth, you would very probably catch some rock bass. Often, these fish will be looking for food, even when most other kinds of fish aren't feeding.

Cut out the colored picture of the rock bass, and paste it on Number 3 on the chart. Be sure to remember what we said about leaving the white border on the fish and animals when you cut them out.

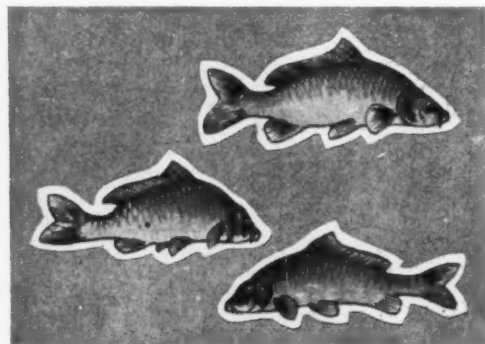
There aren't any rock bass in Muddy River or in Mud Lake. Can you tell why they don't live there?

CARP

Finally, we have found a kind of fish which is trying to live in Muddy River and Mud Lake, even though these waters are muddy and polluted. The carp can't see to find food in this dirty water. There isn't much food in this water, either. The carp gets his meal by putting his mouth on the bottom and sucking in any small plants and animals which happen to be there. He can do this even though he can't see his food in muddy water.

The carp don't have much to eat in Muddy River or Mud Lake. Sometimes there isn't much oxygen for them to "breathe." Often pollution kills some of the carp, but a few manage to keep alive from day to day.

No one goes fishing on Muddy River or Mud Lake. Even if someone fished there and caught



a carp, he wouldn't want to eat it. Fish taken from the muddy polluted water wouldn't taste good.

Cut out the three carp in the strip of fish and animals. You will find three Number 10's on the chart. Paste one carp on each of these three numbers.

SMALLMOUTH BASS



The smallmouth bass wants clear cool water. In many parts of the country he lives only in streams; elsewhere

the smallmouth lives in lakes, too. When we think of this bass we think of gravel stream bottoms, or gravel or rocky shoals along a lake. The smallmouth bass doesn't seem to like muddy stream or lake bottoms. Of course, he doesn't like muddy water either.

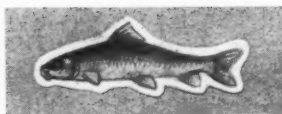
This fish likes to eat crayfish, and insects which live in the gravelly bottom. It will eat minnows, too.

Fishermen like to go fishing for the smallmouth bass. This fish will often leap out of the water when hooked. You can expect a good "fight" when you have hooked a big smallmouth.

In spring, the male bass builds a nest on the gravel bottom. He moves his body from side to side until he has made a saucer-shaped round "hole," several inches deep. After the female has laid eggs in the nest, the male guards it. If another fish comes near, he chases it away. After the young fish have hatched and left the nest, he has finished his homework for another year.

Cut out the colored picture of the smallmouth bass. Find Number 2 on the chart, and paste the bass on this number. You wouldn't expect to find Number 2 in Muddy River or in Mud Lake. The smallmouth couldn't live there!

SUCKER



Some suckers like to live in lakes, others prefer streams. The one on our chart likes cool streams, especially

if the stream bottoms are gravel.

The fish is called a sucker because it feeds by sucking plant and animal life from the gravel on the bottom. As it sucks in water and food, the water passes out of the gill openings, and food goes into the stomach.

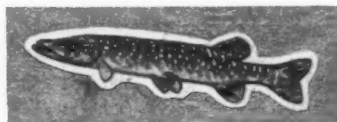
When a school of suckers moves along, taking food from the bottom, it reminds one of a group of miniature electric carpet sweepers, picking up things from the floor.

Because of its small sucking mouth, you wouldn't expect to catch a sucker on a minnow or a lure. Knowing that this fish feeds on the bottom, you wouldn't expect to catch it on a fly near the surface, or on a worm dangling some inches above the bottom.

Suckers are bony fish, but they are good to eat when taken from clear cool waters.

Cut out the colored picture of the sucker. Paste it on Number 4. As you expected, the sucker lives in Clear River, not in Muddy River.

PIKE



This fish happens to be a northern pike. In inland waters along the east

coast, we would find his cousin the chain pickerel. In some waters we would also find another cousin—the muskellunge.

The pike grows to a big size. To grow big, he must have lots of food. The pike has a very large mouth, with sharp teeth in it. If you will look at his mouth, you can tell what kind of food he eats. He wouldn't have a big mouth, full of sharp teeth, if he ate small insects. The pike eats other fish. If a mouse or a frog happens to swim in the water, he'll grab it, too. A big pike will even eat a young duck.

The pike will lie quietly near a weed bed, or move along slowly, looking for food. When he sees a small fish, he suddenly darts toward it, with his big mouth opening as he nears it. Sometimes the small fish escapes; sometimes it doesn't.

The pike wants clear water; he couldn't see his food in muddy water. The northern pike prefers cool, weedy lakes; the chain pickerel prefers weedy lakes, too, but he will live in warmer water.

Cut out the colored picture of the pike and paste it on Number 6.

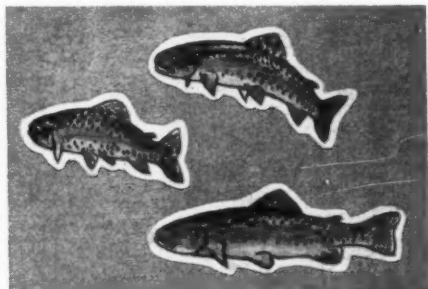
You still have a number of kinds of fish to paste on the chart. Even so, you can see already which of the two valleys you would want to go to if you decided to take a fishing trip!

TROUT

There are many kinds of trout. The best known kinds, in much of the country, are brook trout and rainbow trout. We also have brown trout, lake trout, cutthroat trout, Dolly Vardens, and goldens. All the trout species like cold clean water.

The trout for our chart are rainbows. They are called rainbows because they have a highly-colored stripe along each side of the body, reminding one of a rainbow.

Clear River is a trout stream. The water is cold, clear and unpolluted. There are stretches of this river where the water flows rapidly over gravel bottom. We call these riffles. Here the trout find insects to eat. The river has deep pools between the riffles. Here the trout rest when they aren't feeding. The trout like to hide under over-hanging banks and under the edges of big rocks.



There are many water insects in the clear cold water of Clear River. They thrive on the gravel and rocky bottom. The trout eat these insects. If mud and silt washed into the stream and covered the gravel, there would be fewer insects and less food for the trout.

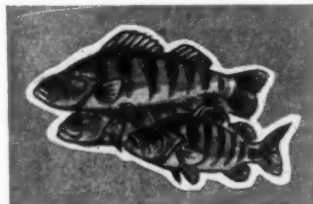
In Clear River Valley the more hilly parts are covered with healthy forests. Where the land is farmed, the farmers are careful not to let soil wash into the streams. They need the topsoil on the land to raise crops. Foresters see to it that the soil in the forests is not washed away. They do this by preventing fires and overgrazing. In this valley most of the rainfall soaks into the ground when it falls. Later some of this water leaves the ground as cold springs. These springs furnish most of

the water in Clear River. That's why the river is cold.

After all but the heaviest rains, Clear River may rise a few inches but it doesn't flow over its banks because most of the rain soaks into the soil instead of running down into the stream. Floods would destroy much of the food of the trout.

There are three Number 1's on the chart. Paste one rainbow trout on each of them. Naturally, they are all in Clear River. Trout couldn't live in Muddy River.

YELLOW PERCH



There are many thousands of yellow perch in Clear Lake. Of course, we can show only a few of them. These interesting fish travel in groups

which we call "schools." Perch schools spend much of the day out in the open water of the lake. Toward late afternoon or early evening, they move inshore to the outer edge of the weed beds to find food. Here, they eat insects and minnows until nearly dark.

At dark, the perch lie on the bottom and stay there until daylight. Some kinds of fish feed at night; others feed by day. The perch is strictly a daylight feeder. We think he sleeps at night while he lies quietly on the bottom. But we can't be sure. Fish have no eyelids. Their eyes are wide open even when they are asleep. So we don't know when a quiet fish is just resting and when he is sleeping.

After daylight, the schools of perch have "breakfast" on minnows and insects and then move back to open water to spend most of the day there.

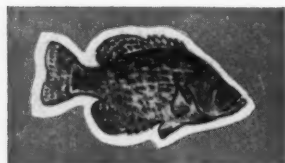
If you wanted to catch a mess of perch, you would fish in the early morning after daylight or in the evening before dark. You would expect to have your best luck if you fished at the outer edge of the weed bed.

As the perch seeks minnows and insects for their "dinner," the pike are seeking "dinner," too. A perch is an excellent meal for a pike. A small fish has two problems—it must find food and it must keep from being the food of some bigger fish! Of course, if none of the little fish were eaten by the bigger ones, there would soon be so many fish that the lakes and streams couldn't furnish enough food for them. A fish may have many thousands of brothers and

sisters, so it is good that some are eaten by other fish and by people.

Cut out the school of yellow perch and paste it on Number 5. There are only three perch in this school. The artist would have put at least fifty perch in the school, but we didn't have room for all of them on the chart. If this were mid-day you would put the perch out in the open water. It's early evening, so you will put them near the weed bed.

CRAPPIE



Like yellow perch, crappies travel in schools. Usually perch are most abundant in cool northern lakes, but crappies tend to be found more

in warmer, more southern waters. Sometimes we find both kinds of fish in the same lake.

We put them both in Clear Lake, together with the bluegill. These three are the favorite pan fishes of the sport fishermen. All were put in Clear Lake because we wanted your favorite pan fish to be there.

Crappies eat some insects but they much prefer minnows. They like to be near a weed bed or near a sunken log, tree, or old boat.

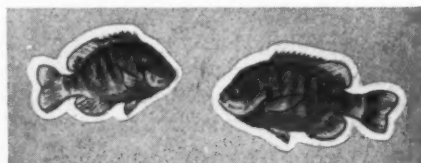
There are two kinds of crappies—the black and the white. The black crappie prefers to

live in clear lakes; the white crappie often lives in the less clear lakes and in big, warm streams. Even the white crappie couldn't live in Muddy River or Mud Lake, though, because these waters are too muddy and too polluted.

Cut out the colored picture of the crappie and paste it on Number 9, near the weed bed in Clear Lake.

BLUEGILL

The bluegill is the favorite fish of many boys and girls. He fights hard when hooked. Few fish taste as good as bluegills which are taken from clear, unpolluted waters.



The bluegills and largemouth bass like the same kinds of waters. You can expect to find bluegills in big weed beds or near their edges. These fish have very small mouths. They feed mostly on insects they find in the water and on the bottom.

Cut out the colored pictures of the two bluegills. There are two Number 8's in the big underwater weed bed in Clear Lake. Put the bluegills on these numbers.

* * * * *

Now you have finished putting the fish on the chart. There are many others which could be added, such as minnows, sunfishes, and catfish, but we don't have room for all of them in Clear River and Clear Lake. There is plenty of room

for more fish in Muddy River and Mud Lake, but most kinds of fish couldn't live there so we couldn't put them there.

Next, you will add some birds and other animals to the chart.

* * * * *

BLACK BEAR



At the moment, the black bear is walking through a scrub oak patch deep in the big forest. This is summer-time, and the berries are ripe. The bear spent most of the day resting

in the shade of the deep woods. He's hungry. He will eat his fill of berries during the evening, and will tear apart a rotten log looking for grubs, his favorite dessert.

Between summer and late fall, the bear will need a lot of food to provide a thick layer of fat on his body for winter. In northern forests, when the weather turns cold, he will go to his

den in the broken rocks on the mountainside and sleep until spring. The bear will not eat for several months. The fat stored in his body will furnish what energy he needs during this long winter period.

The bear lives in the big woods. He might search the meadows and open areas when he looks for food, but he wouldn't venture very far over the ridge onto the barren slopes of Muddy River Valley. Here the trees have been cut down or burned. The bear wouldn't feel at home here. He likes Clear River Valley because there are big forests where he can find plenty of food and many hiding places.

Cut out the colored picture of the black bear and paste it on Number 20.

GROUSE



The grouse lives on the tree-covered slopes of Clear River Valley. He likes a forest of mixed trees with many brushy openings. Aspen and willow buds are important winter foods. Here he can

also feed on berries and the fruits of other wild plants. At night he sleeps on the branch of a tree in the woods. He feeds mostly during the evening and early morning hours. During the day he often rests on the ground or on a stump.

At the moment, a female grouse with her brood of chicks is at the edge of a brushy clearing looking for insects. If you happened to come near, the hen would give a warning cluck to the chicks. They would all run and hide at once. Later, after you left, she would give another signal to her hidden chicks. They would leave their hiding places and hunt for food again.

There are many grouse in Clear River Valley. Here, careful tree cutting and managed forests have helped the grouse. The brush and young trees in cut-over areas have increased food supplies for these birds. Grouse don't live in Muddy River Valley because the trees have been destroyed there.

Cut out the colored picture of the grouse and paste it on Number 19.

COWS

Not many wild animals live in Muddy River Valley because there are few places where they can find shelter from the weather and from their enemies. There are no trees and bushes along the fences where rabbits, quail, pheasants and other wild animals could hide. There isn't much food for some of these animals because too many cows in the valley keep the land overgrazed.

Much of the topsoil has washed away through the years, because the people burned the woods, because they plowed up and down hill and because they tried to raise more cows than the grass on the land could feed.

With the grass destroyed, the valuable topsoil washed into Muddy River. That is why the river is muddy. Whenever there is a heavy rain, most of the water rushes down hill to the river. Very little is held back by grass and other plants and allowed to soak into the ground. Rushing water carries mud with it.

Often, flood waters in this river overflow its banks. During long dry spells the water in the river is low and springs on the hillsides are dry. If more water were trapped by plants and stored in the ground, as it is in Clear River Valley, some of it would flow out all summer from the cool springs. Then the river wouldn't flood during heavy rains and wouldn't be so low during dry spells.

Most of the rich topsoil has washed from the land in Muddy River Valley. Now the land is poor and will not raise good crops of grass. The cows that graze on this land are thin. They don't give much milk. The milk they do give isn't rich with cream, like that from cows which eat their fill of good grasses.



Cut out the colored pictures of the two underfed cows. Paste them on the two Number 22's. The cows are thin and they don't look very contented. So, you know which valley they live in!

The cows in Clear River Valley have plenty of good nourishing food. Here the pastureland isn't overgrazed and the topsoil and mineral matter haven't been washed away.

MALLARD



During summer mallard ducks like the shallow marshes where they can find water plants to eat. These, and water insects, are their main food. At night they rest on small islands of marsh plants or swim to open water. When fall comes, they may start feeding on corn or other grains in the fields. With freezing weather, most ducks will fly south for the winter. In the spring the hen will return, with a mate, to her old nesting place in this marsh. The drake doesn't help with the nest, and he doesn't help raise the ducklings. The hen hatches the eggs and raises the brood.

The mallard couldn't live on Mud Lake. There isn't any duck food in this water. The mud in the water shuts out the light. Green plants must have light or they can't grow. That is why there aren't any marsh plants in Mud Lake.

Cut out the colored picture of the mallard duck and paste it on Number 21. As you expected, you will find this number in the marsh bordering Clear Lake.

DEER



This doe deer lives at the edge of the big forest. During the day she and her fawn rest hidden among the ferns in the woods. Toward evening they have a drink of cool water from the clear brook

which flows nearby. Then they walk to the area where loggers had cut the big trees last year. Here they can find all kinds of little trees and shrubs to feed on.

Earlier in summer, when the fawn was very young, the doe left it hidden in the ferns while she went to feed in the clearings. Now the fawn goes with her wherever she goes.

The doe eats leaves, buds, and small twigs from shrubs and young trees. If there were too many deer, they would soon destroy all of the small "seedling" trees and there would be no new trees starting in the forest. There are plenty of seedlings in the Clear River Valley forests—far more than will have room to grow. So, the deer can eat some of them without harming the woods.

There isn't much food for deer in the center of the forest, where all the trees are big. She can't reach the leaves on tall trees. There aren't many ground plants in this kind of woods because the big trees shut out most of the sunlight. So, the deer and her fawn must find their food in the area where big trees have been cut for lumber, and where smaller trees and shrubs are growing.

The doe crosses the ridge into Muddy River Valley only in early spring when some choice weeds are young and tender. She doesn't go far, though, and she doesn't stay long. Deer don't like to stray very far from the protection of the woods.

The deer and her fawn are in the edge of a pine forest, in an area where most of the trees were cut a few years ago. The foresters were careful to leave a few seed trees, though. In the hardwood forest, for example, in the woodlot where the fox squirrel lives, only a few of the biggest trees are cut each year.

Cut out the colored picture of the deer and her fawn. Paste it on Number 16.

We show only one fawn. We really should have shown two. Where the land is good, and food is plentiful, deer often have twins. Where there isn't much food deer have only one fawn or perhaps none at all.

FOX SQUIRREL



The fox squirrel likes to live in farm woodlots, especially if the farmer has left a few "den" trees—hollow trees in which the squirrel can build her nest and find good shelter

for the winter. Squirrels will build nests of leaves and twigs up in the branches of the trees, but they prefer to use the cavities in trees, which are better protection from wind and rain.

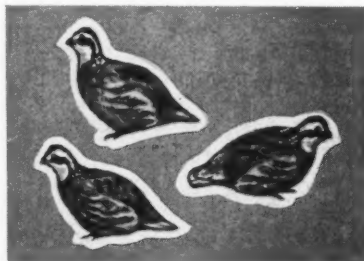
During the fall, the squirrels bury nuts and acorns in the ground. In winter they dig some of this food up and eat it.

Some nuts and acorns are forgotten. They grow and become little trees.

Cut out the colored picture of the fox squirrel and paste it on Number 14. There are no fox squirrels in Muddy River Valley. Here the trees have been destroyed. The squirrels would find no homes and no food in this valley.

QUAIL

When farmers in Clear River Valley wake up on a spring morning, they can hear the cock quail calling "bob-white" from the nearby fields. At times during the day, the hen can be heard calling, too.



The quail builds her nest in a brushy fence-row beside the field. The male stays close by while the female sits on her eggs. When the young have hatched, both parents look after them. One parent will be watching for enemies while the other helps them find food. Quail eat insects and weed seeds.

When the chicks are young and downy, the mother quail covers them with her body feathers

to keep them warm and dry. After the young birds are well grown and have their feathers the whole family will roost on the ground in a circle at night. All tails will be together and the heads will point outward. Sitting in a tight circle keeps the birds warm. It also helps the flock to escape if an enemy comes near because the enemy can't "sneak" up without being seen by one of the birds.

Quail like to feed in the fields, but they want to be near plants they can hide under if a hawk or fox happens by. The fields in Clear River Valley are planted in strips. The strips of grain give the birds cover as well as food. The strips between the grain fields produce hay. The farmers plant their hillside fields in strips so that the soil can't wash away. If soil and water start to wash down the grain fields, they soon reach the strip of hay. Here the water soaks into the ground, and the soil from the grain field doesn't wash on down into the river. The quail always have food and shelter in Clear Creek Valley.

Actually, the quail travel in flocks, which we call "coveys." In summer, a covey is usually the two parents and their brood. In fall, several family groups may join the covey. We show only three quail on the chart. Each one represents a covey of a dozen or more birds. Cut out each of the three quail and paste one on each of the Number 12's.

There are no quail in Muddy River Valley. There aren't any thickets or brushy fence-rows in this valley. The quail couldn't find shelter there. In Muddy River Valley the farmers don't hear the cheerful call of the bobwhite in spring.

GRAY SQUIRREL



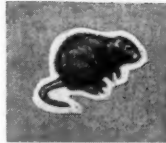
In many ways the gray squirrel resembles his cousin, the fox squirrel. Like his relative, he will live in woodlots but he prefers the big woods.

In Clear River Valley, you would expect to find the gray squirrel in the big forest and the fox squirrel in the farm woodlot.

There are many gray squirrels in the big woods. Here they find acorns, nuts and pine seeds to eat. They have both shelter and food in the forest. Of course, there are no gray squirrels in Muddy River Valley. Here they would have neither shelter nor food.

Cut out the colored picture of the gray squirrel. Paste it on Number 15.

MUSKRAT



Musk rats live in the marsh. Here they build their homes of cattail stems and mud. The houses have underwater entrances. Some of these homes have several rooms, with separate entrances. The female raises her young in one of the rooms, other muskrats may live in a different room.

The muskrats eat the roots and tender stems of some of the marsh plants. When it eats, a muskrat will sit on its hind legs while it holds the food with its "hands."

If you sit quietly near the marsh toward evening, you may see muskrats swimming in the water. They may be putting more stems or mud on the house, or they may be getting food. These animals are most active at night. During the day, they sleep in their houses, or in burrows in the ground at the edge of the marsh.

As you may have expected, there are no muskrats in Mud Lake. Here they would have no tender plants to eat or stems to build their homes and nests.

Cut out the colored picture of the muskrat. Paste it on Number 18, in the marsh bordering Clear Lake.

WOODCHUCK



Some places the woodchuck is called a groundhog. Or you might know him as the whistle-pig. He's really not a pig at all, but he does whistle when frightened.

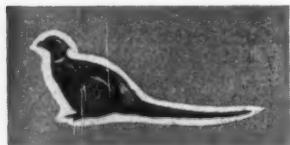
The woodchuck builds an underground home at the edge of a hayfield or pasture. He digs long burrows in the ground. He spends the night in the underground home. During the day, when frightened, he quickly runs into his home to escape his enemies. All winter long, he sleeps there.

In the early morning and evening, the woodchuck eats clover and other plants in a nearby hayfield or pasture. He stays fairly near his home, so that he can disappear quickly if a fox or some other enemy tries to catch him. If the weather is nice, the woodchuck may sun himself for a long time at the entrance of his home. He sits on his hind legs as he looks around.

Woodchucks eat some of the farmer's hay, but they don't do much damage, unless there are too many of them. They help the rabbits because the woodchuck's burrows make good hiding places, and warm winter homes.

The woodchuck which you will paste on the map is setting in front of his burrow. Cut out the colored picture and paste it on Number 17.

THE PHEASANT



When the settlers first came to Clear River Valley, they didn't see any pheasants. There weren't any "ringnecks" in the valley. In fact, there weren't any pheasants anywhere in North America. These birds were introduced from Asia.

Pheasants like to live in good farm country. In fields of hay, corn, oats, wheat and other crops, they find weed seeds and insects. Pheasants eat some grain but most of it is what was left after the crop was harvested. Pheasants find shelter in tall grass and brushy fence rows and they often nest in strips of alfalfa or hay.

The male pheasant is a very attractive bird. He has a long tail, and brightly colored feathers. Often, you can hear him crowing on a spring morning. The female is much less attractive. Her brownish color protects her. A fox or some other enemy could find the highly colored male much more easily than he could find the female.

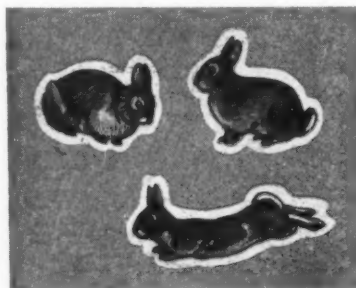
Cut out the colored picture of the male pheasant. Paste it on Number 13. Knowing that the pheasant likes to live in rich farmland, with

brushy field borders, you already know where you will find Number 13. You will not find it in Muddy River Valley.

RABBIT

There are many cottontail rabbits in Clear River Valley. Here they have plenty of food and many hiding places. There are brushy fence rows and brier patches. Cottontail rabbits often use the burrows built by woodchucks.

Many kinds of animals eat rabbits. Even so, there are plenty of rabbits where they have good places to hide, because rabbits have several families of young each year. In Muddy River Valley there are few hiding places. Here most of the rabbits are caught by cats, dogs, foxes, owls, hawks, and other enemies.



In Clear River Valley the rabbits live at the edges of the fields and woods. Cut out the colored pictures of the three rabbits. Paste one on each of the three Number 11's on the chart.

* * * * *

Many other animals live in Clear River Valley. There are wild turkeys in the big forests. Several bobcats live there too. In a walk through the wooded mountainside, you might see a porcupine high in a tree, eating bark and new twigs. Red fox and gray fox visit the valley. A mink lives along Clear River. Colonies of beaver have dams and lodges on several of the streams. Of course, there are many kinds of song birds, and some hawks and owls.

You could put many kinds of animals in Clear River Valley, but the chart would be much too crowded if we tried to show all the different kinds. There's plenty of room for these animals in Muddy River Valley part of the chart. We can't put them there because most kinds of wild animals wouldn't care to live in this valley. Animals need shelter to protect them from their enemies and the weather. They must have food, too. There isn't much shelter or food for wild-life in Muddy River Valley.

ABOUT YOUR VALLEY

Most of us live in a valley. Probably you live in one. Do you know about your valley? Do the people there take good care of their soil and water, and their forests and fish and game? You might want to make a conservation chart of your valley.

You will enjoy learning about your valley. Visit the town water supply plant and learn how the community gets its drinking water. Learn how the water is treated. Do towns pollute the stream? Do the factories pollute them? Do farmers take good care of the soil? Is the all-important topsoil washing away? Visit a farm, if you don't live on one, and learn what the farmer is doing to save the soil. Visit several factories to see how much clean water they use.

Are the forests in your valley protected from fire? Are the trees being cut faster than they should be, or are new trees taking the place of those which are cut? Have a forester tell you about forestry in your valley.

What kind of wild animals live in your valley? You can see some kinds by driving along country roads in the early evening. You can see others if you will take hikes in the fields and woods. A game biologist will be glad to tell you about the wildlife in your valley.

Visit the streams and lakes. Is the water clear? Is fishing good in the waters of your valley? It will be good if we take care of the soil and water. Even our fishing depends on how the farmers take care of their land and on how the foresters take care of the woods.

If you have never fished, be sure to try it. Once you have learned to fish, you will go often. Many a fisherman would be glad to take you

with him and to teach you how to catch fish. A fishery biologist will be glad to tell you about the kinds of fish in your valley, and how they live.

Remember that what we do with our soil and water, our forests, and fish and game, will decide whether we have a good valley or a poor valley. People can destroy these important things by misusing them. But, we can restore them, too, though we can't do it in a hurry.

Muddy waters will become clear again if we learn to keep the soil on the land. The springs will flow again if we allow most of the rain to soak into the soil. We can do this by growing trees again on steep slopes, and by strip-farming.

When clear springs flow again, when the soil is kept on the land, and when pollution is stopped, there will be fish in the streams again, and you can go swimming there, too.

Even a valley that has been mistreated can be restored again. If you live in a valley where the people have taken good care of the land, the water, forests, fish and wildlife, do everything you can to help protect these resources. If you live in a valley where the resources have been misused, you and the other people can help to restore them.

Our country will be great and strong, and its people will be healthy and happy, only so long as we take good care of our all-important resources—our water, land, minerals, forests, fish and wildlife. These are so important that **you** must help to take care of them, too. All of us must guard well those things which make America great and strong, and its people healthy and happy.



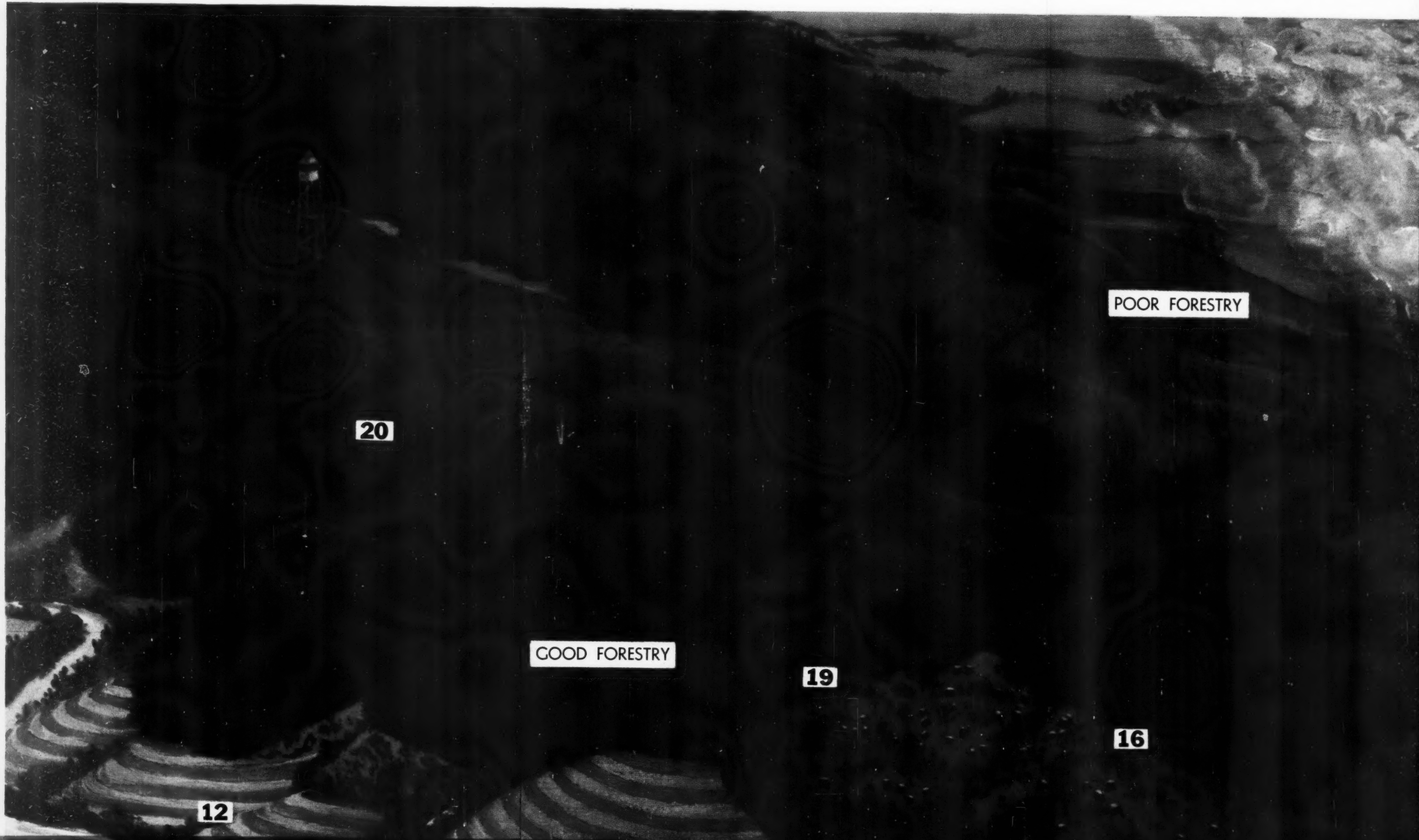
Good forest management— is good watershed management

A healthy forest holds rain and snow long enough for water to seep into the soil, where it is held and released slowly. But once matured, forests do not stay healthy by themselves indefinitely. Proper timber harvesting can help to keep the forest vigorous and growing... help prevent soil erosion... help keep rivers in bounds... help to improve scenery, hunting and fishing.

Good forest management is vital to every American.


International Paper COMPANY
WOODLANDS DIVISION

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POOR FORESTRY

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GOOD FORESTRY

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12



POOR FORESTRY

DRABTOWN

POLLUTION

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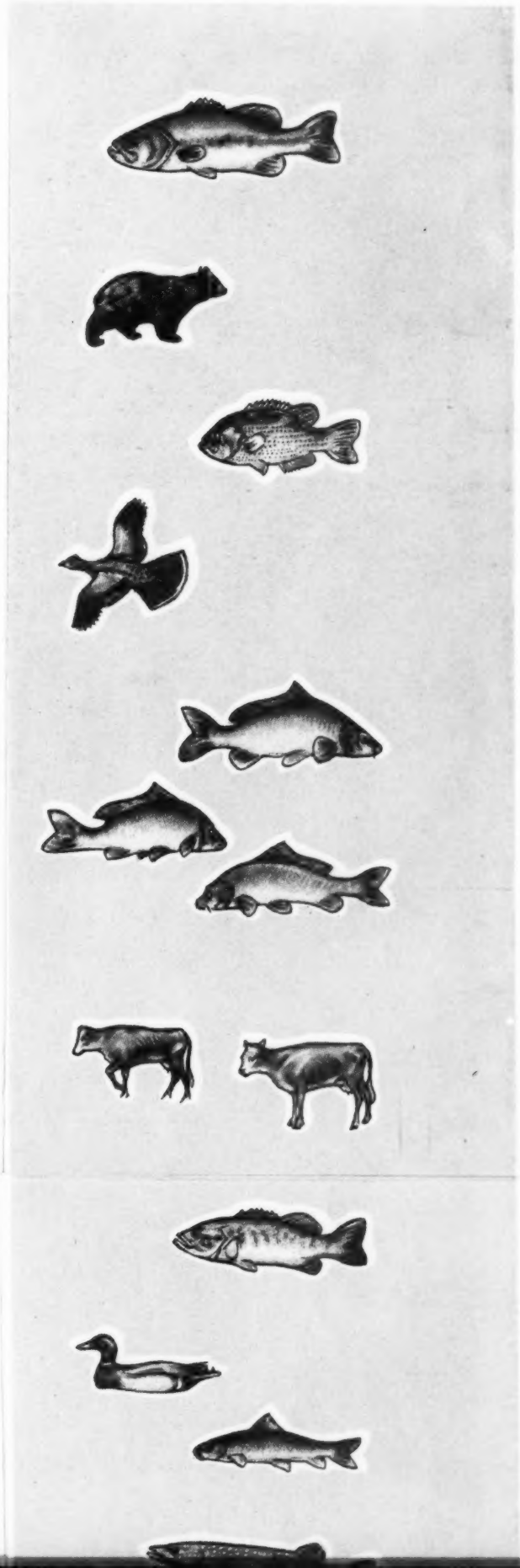
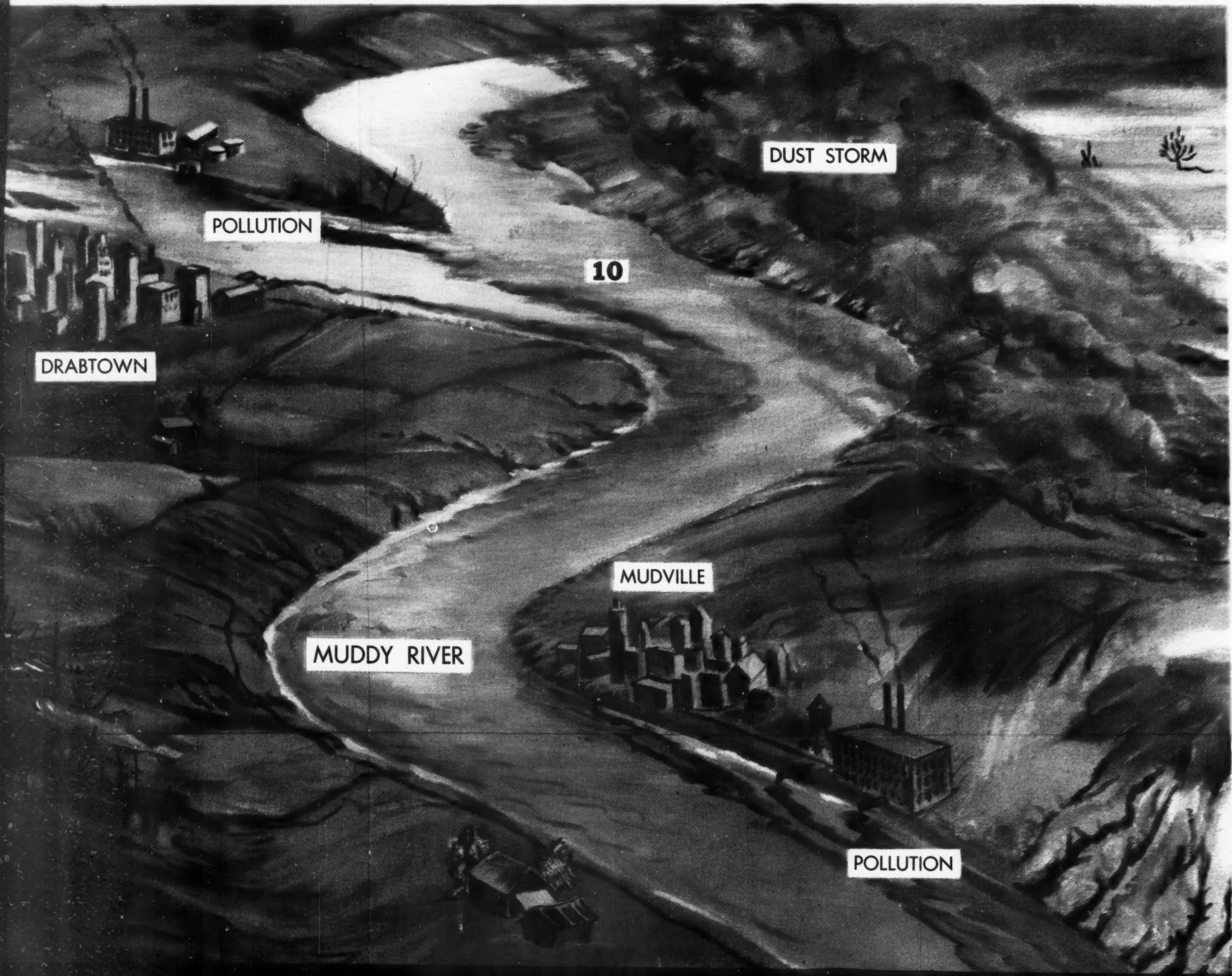
DUST ST

MUDVILLE

MUDDY RIVER

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GOOD FORESTRY

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GOOD FARMING

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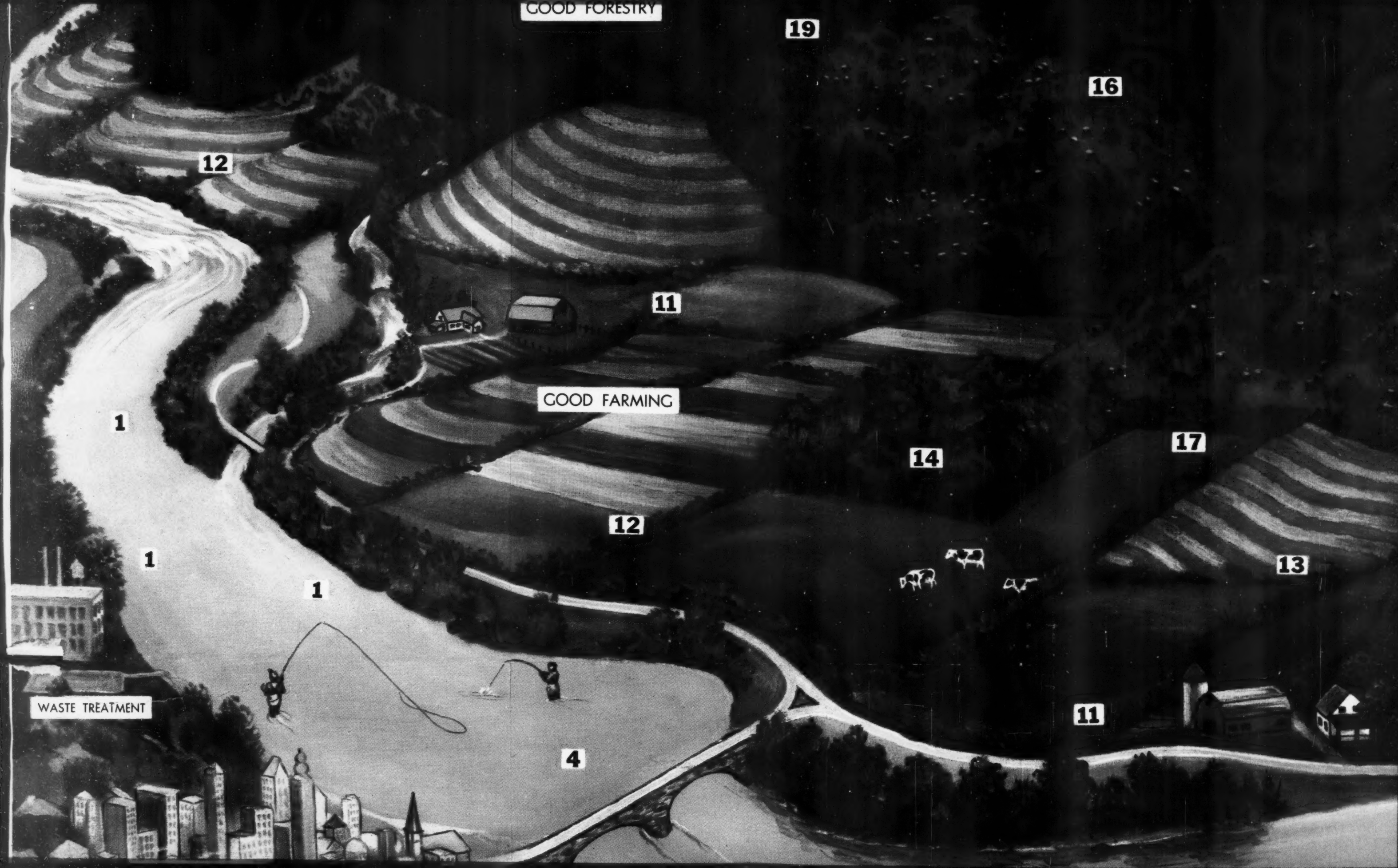
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WASTE TREATMENT

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GOOD FORESTRY

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POOR FARMING

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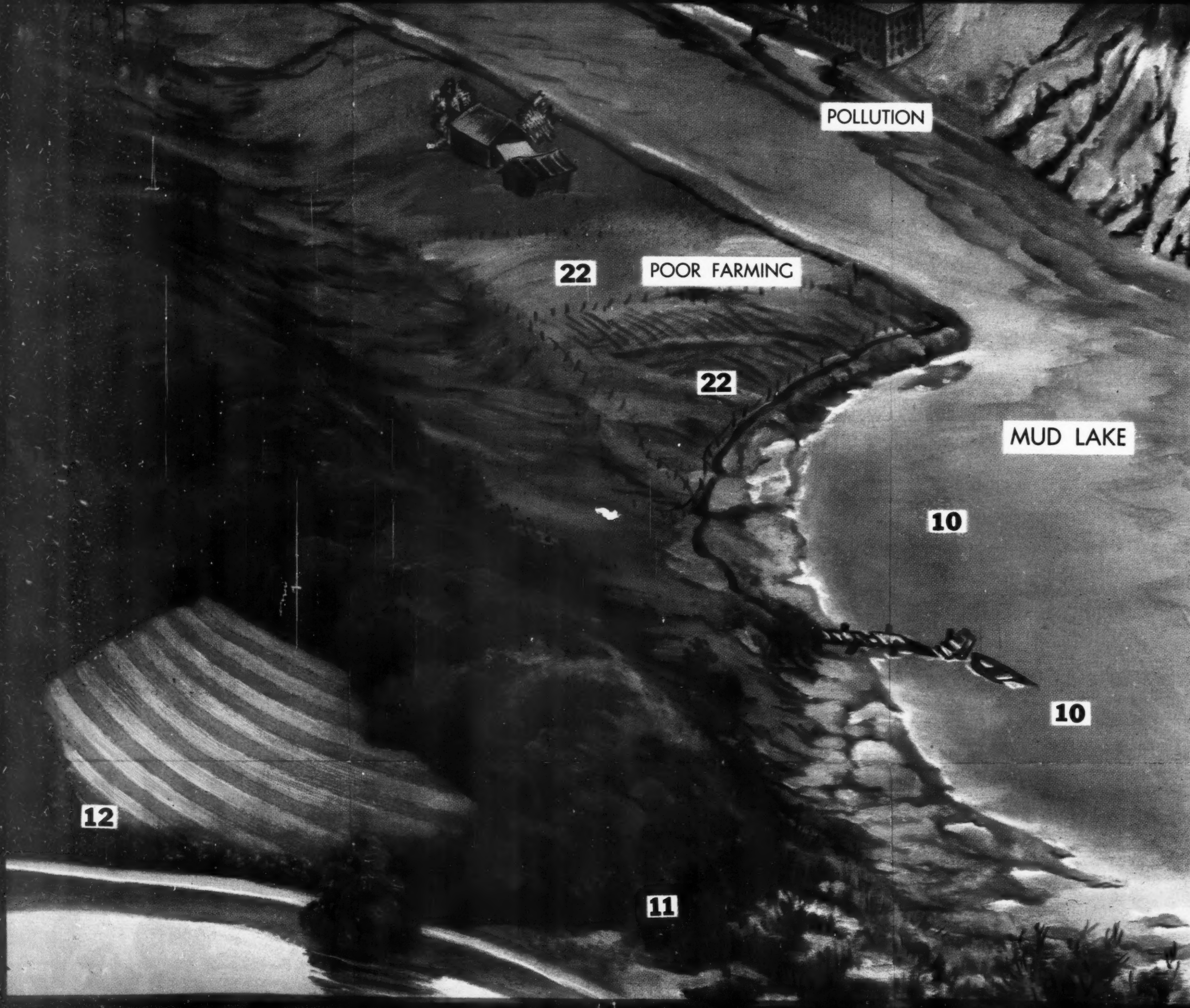
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POLLUTION

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POOR FARMING

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MUD LAKE

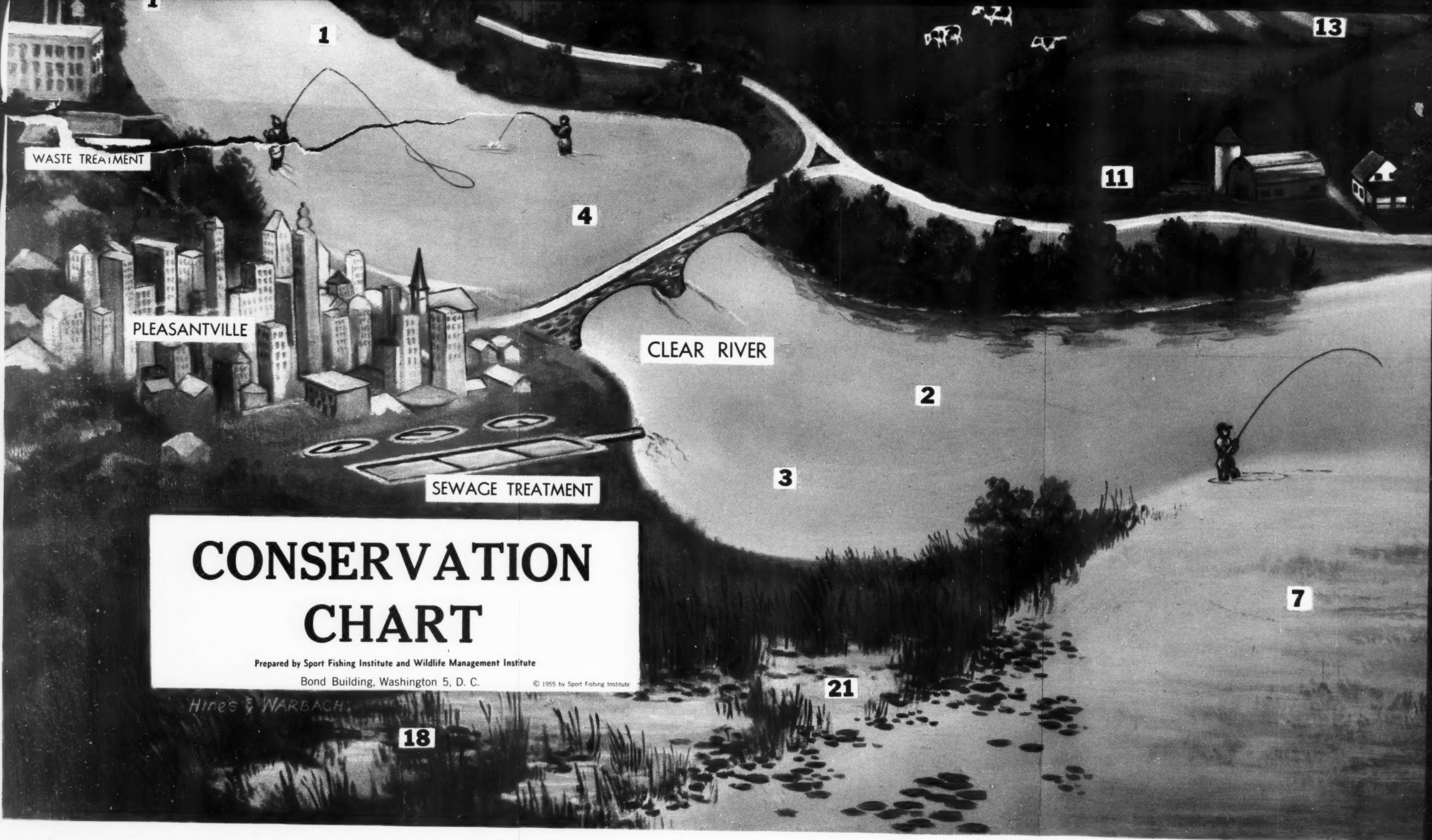
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WASTE TREATMENT

PLEASANTVILLE

CLEAR RIVER

SEWAGE TREATMENT

CONSERVATION CHART

Prepared by Sport Fishing Institute and Wildlife Management Institute

Bond Building, Washington 5, D. C.

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Hines & Warbach

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CLEAR LAKE

